MIDWEST ENGINEER

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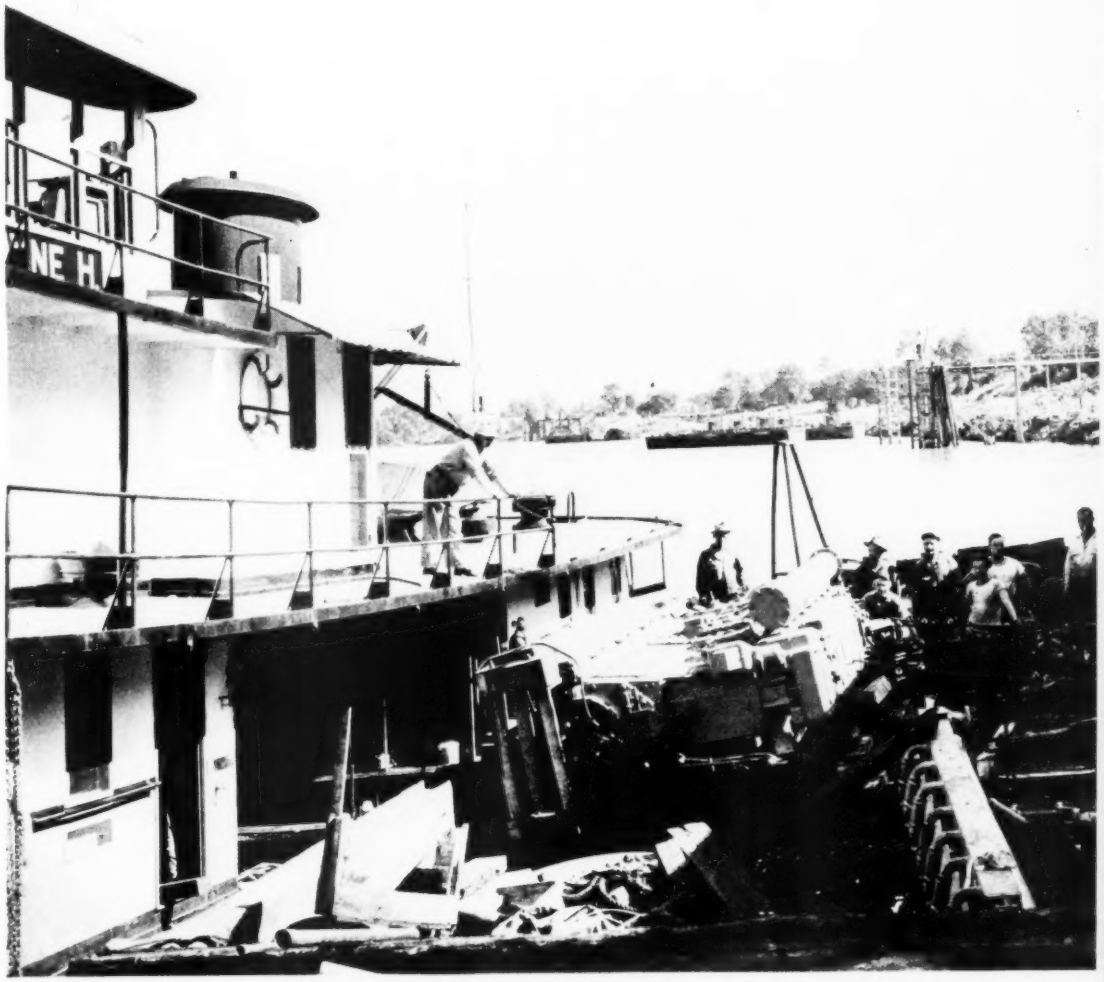

Washington Award Dinner — April 20

(See Page 29 for Details)

VOL. 1 APRIL, 1949 No. 8

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COVER CREDIT

Shown on our front cover is the Cooper-Bessemer JS-8 Diesel, being slipped into the engine room of a craft by means of chain hoists, wire rope, some manpower and plenty of ingenuity.

COMING IN THE MAY ISSUE:

WESTERN SOCIETY'S EIGHTIETH ANNIVERSARY, ITS BACKGROUND, AND ITS PLANS FOR THE FUTURE

INDUSTRIAL RESEARCH AND ITS RELATION TO CORPORATION MANAGEMENT

Western Society Meetings

General Meeting, April 11

F. G. Gordon, and L. R. Howson, both past presidents of Western Society, will speak APRIL 11 before a general meeting of the Society sponsored by the HYDRAULIC, SANITARY AND MUNICIPAL ENGINEERING SECTION.

Their subject will be the "Chicago North Side Filtration Plant."

Mr. Gordon is Assistant City Engineer, City of Chicago, and Mr. Howson is a partner of Alvord, Burdick & Howson.

Chicago pumps more water than any city in the world. At the present time approximately one-third of the Chicago supply is purified in the recently completed South District Filtration Plant, the world's largest, built at a cost of $25,000,000. Chicago is now considering filtration for the North and Central Districts in a plant three times as large as the South District Plant, at a cost estimated at approximately $70,000,000. The engineers have recommended the construction of a union plant for both districts, to be located on the lake front north of Navy Pier. Opponents of the lake front site favor the location of the plant in the "blighted area" near the north branch of the Chicago River at an added cost of nearly $10,000,000.

This meeting will present an opportunity to become familiar with the need of filtration and the factors affecting Chicago's program for securing pure water for all at the earliest practicable date.

Excursion, April 21

A tour through the New Research Laboratory of the Standard Oil Company of Indiana at Whiting, has been arranged for Thursday, APRIL 21, beginning at 2 p.m.

To reach the plant by automobile, take Highway 41 to "Five Points," then follow Route 12 and 20 to New York Avenue; at stop light turn right for two blocks; turn into parking space at New Research Laboratory (yellow brick building).

Members and guests are cordially invited.

Fire Protection and Safety, May 2

Louis Cheskin, Technical Director of the Color Research Institute of America, will speak before the FIRE PROTECTION AND SAFETY ENGINEERING SECTION, MAY 2.

Mr. Cheskin, inventor of a system of deriving 4,800 colors from the 3 primary colors, will explain the color system and its application to all types of interiors—commercial, public, and residential, and tell a few case histories about the psychological tests with colors conducted at the Institute, located in Chicago.

At the Institute Mr. Cheskin applies his knowledge of psychology, art and color to advertising and package design, and to color tuning all types of interiors for home and industry.

Traffic Engineering and City Planning, April 18

How another city is meeting the problems which Chicago faces, will be explained by George C. Hayward, Executive Secretary of the Citizens Development Committee, Cincinnati, Ohio, when he speaks APRIL 18 before a meeting of Western Society sponsored by the TRAFFIC ENGINEERING AND CITY PLANNING SECTION.

His subject will be "Building Cincinnati."

Mr. Hayward is a graduate of the University of Michigan, having earned both bachelor's and master's degrees from that institution. After graduation he held planning positions with the federal government in Washington, D.C., and the southeastern states, followed by two and a half years as City Planner for Flint, Michigan. After two years as Principal Planner on the staff of the Cincinnati Master Plan Division, he became Planning Director for Fort Wayne, Indiana. He undertook his present duties in Cincinnati, in September, 1948.

These positions have involved the responsibilities of preparing master plans and pressing for their accomplishment.

General Social Meeting Sponsored By Junior Division, May 9

A general social meeting, sponsored by the JUNIOR DIVISION, will be held in the WSE headquarters on Monday, MAY 9. The entire membership of the Society is invited to attend this informal meeting.

Activities will begin with a social hour and smoker in the sixth floor lounge at 6 p.m., at which time the membership can assemble to meet old friends and make new ones. Dinner will be served in the fifth floor Dining Room continuously until the start of the meeting.

At 8 p.m., the speaker of the evening, WSE Vice President Gustav Egloff, will address the membership on the subject, "The Engineers' Role in the Oil Industry." He will cover his observations of engineering feats and activities in this country and abroad, including new developments in fuels, and interesting construction problems in the oil field.

Annual Dinner, June 6

The annual dinner of Western Society will take place at the Furniture Club of America, JUNE 6.

Plans suggest that this will be one of the outstanding events so far in the Society's schedule.

A fine speaker will be obtained who will talk on a non-technical subject in an entertaining manner.

Watch for details in the May issue of MIDWEST ENGINEER.

CONSTRUCTION TRENDS

J. P. H. Perry
Vice President, Turner Construction Company

Presented before the Western Society of Engineers, March 14

I don't know what your officers had in mind when they asked me to speak on *Construction Trends*. Were they thinking of the trends "up or down"; or were they considering the trends "East or West"; or were they wondering whether the construction would be mostly public or private, industrial or commercial, institutional or housing?

Were they even going further in their simplification and wondering whether the trend would be mostly towards buildings or towards so-called heavy work? On the other hand, anyone discussing construction trends might be thinking in terms of costs, types of work or volume of work.

I have elected to give most of my time this evening to a discussion of the trend of construction costs. I will discuss the question, "where are construction costs going in the near future?"

Before one can answer the question, "where are building construction costs going?" it is necessary to know where they now are and it would seem to be appropriate also to analyze briefly why they are where they now are.

Present-day building costs are about 2¼ times what they were in 1939-40. In other words, the pre-war building that cost $1,000,000, today would cost about $2,250,000. For those who are interested in going back still further, the building that today would cost $2,250,000, could have been built before World War I for some $530,000.

One of the reasons for the present high cost of buildings, and according to my belief for the probability that building construction costs will remain high for some time to come, is the great backlog of unsatisfied building and general construction demand existing in this country today.

In August, 1948, the Engineering News-Record stated, "There is a backlog of proposed construction amounting to more than $42,000,000,000. This is equivalent to approximately 6 years of construction at the present high rate of activity." Early in February, 1949, the Engineering News-Record stated that the backlog of proposed construction had crept up to approximately $43,780,000,000. This increase in the backlog of proposed construction is at a somewhat slower rate than for the preceding year or two. However, with construction activity declining slightly it means that the backlog represents probably 6½ years of construction at the present annual rate.

It is further interesting that of the backlog, commercial buildings and public buildings account between them for some 33% of the total.

In spite of the general belief that industrial building construction has passed its volume peak, of the 14 classifications into which the Engineering News-Record divides its backlog figures, industrial building construction recorded the greatest gain of any type of construction activity, that is, in the backlog of 1948 compared to 1947.

Aside from the immediate backlog of proposed construction, one important factor affecting the construction outlook is the increasing birth rate in our country. Our population is more than 5 years ahead of all pre-war predictions. Pre-war birth rates were at the rate of about 2,200,000 per year. In 1947 there were over 4,000,000 births and in 1948 nearly as many. There is little or no relief in sight because marriages are up nearly 50% over the pre-war rate. Furthermore, people live longer now than they did. In 1940 there were only 9,000,000 people in the country aged 65 or over. There are now over 11,000,000 such persons.

This great population increase will require enormous expenditures for housing and for buildings for purposes of education, amusement, hospitalization, transportation of all kinds and for industrial output of every type.

Nor can one overlook the fact that America has done very little building, except for war needs and for the conversion of industry from war-time use to peace-time use, in practically a decade and a half. In the larger cities and in many of the smaller ones there have been practically no office buildings, hotels, schools, colleges, theatres or churches built since the middle 1930's and by common consent a not very large dent has been made in the providing of modern sanitary housing for our growing population. America is not satisfied to stand still building-wise. Only the other night on the radio I heard the school building problem discussed as it affects New York City. I was impressed that one of the most urgent pleas made was to the effect that the majority of the school buildings in New York City were actually more than 50 years old and must be replaced with modern up-to-date structures. It's pretty hard to build any building that would not last 50 years and if our people are going to want buildings to replace those that are 50 years old the size of the construction problem ahead of us is indeed staggering.

Among other factors that have created the present admittedly high building costs are the following:

In some building crafts, work formerly done by laborers has been taken over by skilled mechanics at high wage rates.

The differential between factory wages and on-site building wages is not as great today as was the case before the war. This results in fewer men choosing

(*Continued on Page* 4)

Construction Trends

(*Continued from Page 3*)

work on construction jobs, due in no small part to the hazards of this latter type of work and to the broken time generally prevailing and the exposure to unpleasant weather at times.

Many of the pre-war practices and tolerances permitted in industrial plants have begun to be accepted on construction work.

Today in the metropolitan New York area we have in many trades 6 paid holidays or its equivalent in a welfare fund contribution.

When construction volume in an area is large there is frequently a shortage of mechanics. In order to properly man the job a contractor will resort to paying premium overtime with a resulting increase in unit cost for that part of the work.

Due to cramped living conditions, it is difficult to move labor from one section of the country to another. The construction worker has ceased to be a floater and prefers to remain in a fixed job.

The 7-hour day, which is fairly general in the construction industry in the New York metropolitan area, to say nothing of the 6-hour day which prevails in 2 important crafts, has materially increased the time it takes to build the building, and time is money in more senses than one. A contractor's overhead in the shape of construction plant rentals and the wages of job supervisory personnel becomes an appreciable percentage of the total cost on a job that runs 18 months instead of the 12 or 14 months that it usually took to build the same piece of work in the 1920's.

It has not yet proved practical to mechanize building construction. We still lay bricks as we always have. To be sure, we try to deliver the bricks as near to the bricklayer as possible and have mechanized this intermediate operation on large jobs. The use of central mixed concrete distributed in "transit-mix" trucks, has cut the cost of concrete somewhat. The machine threading and cutting of pipe on the job is economical and is increasing in adoption. But the building industry has not been able to keep pace with other branches of the construction industry when it comes to mechanization.

Another condition that has influenced the cost of building construction has been the unionization of building mechanics pretty widely throughout the nation. Fifteen or more years ago real unionization in the building industry was effective only in the metropolitan areas. Take Long Island, for example. Here very large housing programs were carried out on an open shop and often on a non-union basis. In the South practically all building construction was open shop or at the most unionized only in the very skilled trades. World War II, plus the Wagner Act, changed all that. The effect of the 40-hour week on job supervisory staffs with its time and a half for overtime, has added something to the supervisory costs on building construction. The making of extensive tax and insurance returns has added a costly burden to contractors.

All these factors add up and the owner has to pay the bill.

Of more direct influence is the increase in wages which has occurred. Take the bricklayer. Today generally in the metropolitan area of New York the official rate is $3.20 an hour for a 7 hour day. Eleven years ago this rate was $1.66. Actually, however, with the shortage of bricklayers the average job cannot be manned without payment of premium overtime and sometimes bonuses in the shape of transportation and even living costs.

Take the carpenter. Today his rate is $2.75, 11 years ago it was $1.53.

Or the building laborer. Today his rate is $1.95, 11 years ago it was $1.00.

Wages are not the only element influencing building costs upward. There are many working conditions prevailing under union agreements or in trade practices which are costly.

Production per man-hour in nearly all classes of building labor is materially below that prevailing at the time we went into World War II. This falling off in productivity has been occasioned by two broad factors:

1. The fact that today most building mechanics are 10 years older than they were before the last war. These men are physically unable to match their pre-war production records.
2. Because the mechanic or laborer does not and cannot be made to work as hard as he otherwise would when he knows he can get another job "across the street."

There are indications, however, that productivity of building laborers and mechanics has increased somewhat in the past two years. This is partly due to the better deliveries of materials so that men are able to work with fewer interruptions than was the case for nearly a year after V-J Day. The leaders of the American Federation of Labor are apparently doing their best to increase productivity. An agreement has been reached with the Associated General Contractors of America for the settlement of jurisdictional disputes without delay and without stoppages of work. This has already made itself beneficially felt and gives real promise for the future. Labor is supporting a broad apprentice training program which should in time result in an increased supply of qualified skilled building mechanics.

Today's high costs obviously are occasioned to a large extent by cost of materials. A few typical examples will suffice to illustrate this point. The prices all refer to metropolitan New York on March 1, 1949, but are not far off for other major metropolitan areas.

Common brick that today costs $33.00, 11 yrs. ago cost $12.25 per M.

Form lumber that today costs $86.00 per MBM, 11 yrs. ago cost $35.00.

Plywood that today costs $204.00 per MBM, 11 yrs. ago cost $78.00.

Reinforcing bars that today cost $103.20 per ton, 11 yrs. ago cost $47.00.

Cement that today costs $4.02 per bbl, 11 yrs. ago cost $1.80.

Structural steel erected for an ordinary simple building today costs $225.00, 11 yrs. ago cost $90.00 per ton.

What About Future Costs?

So much for present building construction costs. The $64 question is, of course, "where are they going in the future?"

1. Construction costs appear to be stabilizing. There are few items which are still subject to rising prices; the principal one being steel. It may be that we will experience a slight recession in costs this year, and yet, should industry grant a fourth round of wage increases there could be a further slight increase in building costs. Broadly, we would say that the cost trend may vary up or down 5% from today's price level. However, in view of the very general thinking of economists, as revealed in the past 2 or 3 weeks, it may be that we are a bit on the optimistic side and that if the trend of economic conditions continues in the direction currently indicated a recession in building costs below today's levels may be as much as 10% before the end of 1949.

2. Our guess is that while there probably will be less work authorized or started in 1949 than in the recent past, public work, municipal, state, county and federal will show some increase, at least in authorizations. Industrial work will probably show a decrease. This may be true also of home building. The government's proposed labor legislation, as well as its tax program, will probably adversely affect the volume of construction in 1949.

3. There doesn't seem to be much question but what we will have a reasonably adequate supply of materials and equipment. Man power is now generally sufficient in number though still somewhat deficient in efficiency. The availability of materials will be affected probably by the volume of shipments to foreign countries as well as by a possible governmental allocation of materials which might be occasioned either by a subsidized home building program or by rapid step-up in defense expenditures.

4. Our observation is that a number of important jobs have been authorized, since Mr. Truman's election, by people whose judgment of the probable trend of costs in this country is as reliable as could be cited. We cannot believe that some of the larger building operations would have been started if those who gave the order to proceed believed that there was likelihood of any material reduction in cost this year or next. The nature of the buildings I have in mind is such that their construction could have been postponed a year or two without serious detriment to the companies who use the buildings.

For the longer pull, say up to 5 years, there are few elements which would lead us to believe that costs will decline materially. Of course, a war or a great depression would upset any current thinking. A war would probably drive costs up and a great depression would undoubtedly drive building costs down. Even if the prophets of gloom are right and an economic bust is around the corner, there are those who believe that great public construction program of both buildings and heavy work would be gotten under way with a resulting nearly full employment of construction workers and the creation of a wider market for building materials, all factors tending to keep construction costs up.

Should our government tend to become more and more liberal, and veer toward a socialistic state, the affect on building costs would probably be to push them up rather than down. Government operation is notoriously inefficient and costly. Bureaucratic management is seldom economical. Allocations and controls of materials and of their distribution tend to increase if in no other way than by creating expensive black or gray markets.

Thus far I have talked about the trend of construction costs and construction volume. I think the other trends are obvious. There are many influences tending to force building operations away from the East Coast toward the Middle West. This move is directed not only by those having our war-time security in mind but by population growth requiring decentralization of industrial activities and by the rapid growth of urban centers in the Middle West, Southwest and South. Public work will probably increase more rapidly in volume than private work. Similarly, it would be my judgment that there would be a greater increase proportionately in commercial work than in industrial work for the next few years. There will be more heavy work — tunnels, dams, sewers, reclamation, railroads, public utilities — proportionately than building work.

It is hard to reverse inherent American thinking as to the future. We have been nurtured and live in an "economy of growth." Anyone who tries to think of America in the next 5 to 25 years going backwards is out of step.

I can't forget a remark my oldest son made to me when he got home from 210 days of continuous combat with one of Patton's outfits. My boy was an artillery officer. For most of his service in five countries he commanded a battery. He told me he had moved his battery 144 times and that all but one of these movements was *forward*. He said he often wondered what his state of mind would have been had he been on the other side of the line and had to move his battery back and back 143 out of 144 times. This young Major's comment on the psychology of himself and the members of his battery, should guide our American thinking in the future. The trend of construction in this country, so far as quality and volume, is in my opinion definitely upward.

NOTE: Mr. Perry's talk was replete with many pertinent side remarks which are not reproduced, but which added materially to the enjoyment of those who were present.

To Offer Engineering Review Course

As previously announced, the A.S.C.E., A.I.E.E,. A.S.M.E., A.I.M.E. and the W.S.E. desire to sponsor a review course of study for engineers who plan to apply for a Certificate of Registration under the Illinois Professional Engineering Act.

The Joint Educational Committee, composed of representatives of the above five organizations working in conjunction with the Educational Committee of the W.S.E. has arrived at the following tentative decisions:

1. The first course must be given during next September and October for the November examination.
2. It will be conducted at the headquarters of the Western Society of Engineers.
3. There will be sixteen bi-weekly evening sessions of two hours each.
4. Instructors will be selected from the faculties of the Illinois Institute of Technology, Northwestern Technological Institute and the University of Illinois.
5. A non-profit fee for the course will range from $70.00 to $30.00 depending upon the size of the enrollment.

The time for arrangements is relatively short and planning cannot proceed without a knowledge of the demand. All engineers wishing to take such a course must inform Mr. Donald V. Steger, Executive Secretary of the Western Society of Engineers, 84 East Randolph Street, Chicago, by May 15, 1949.

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Russia and the Communist Challenge

E. Gordon Fox

Past President, W.S.E.

Presented before the Western Society of Engineers, April 4, 1949

I do not address you as an expert on Russia. Nor do I offer any startling news from behind the iron curtain. My remarks will express merely individual opinion and personal philosophy. I will humbly attempt a measure of interpretation based on a background of intimacy with the Russian picture. I shall try to speak without bias or restraint. I hope that I may thus contribute a little something to your thinking on this crucial topic.

This talk takes the form of an interview. I shall discuss such subjects as the likelihood of war with Russia, an evaluation of communism, our foreign policy, etc. But first, by way of background, let us look at the resources of the Soviet Union.

The basis of the industrial development of any country rests in its natural resources. If territory is a resource, the Soviet Union has it. From east to west it extends nearly half way round the world, covering 160 degrees of longitude as compared with our 60 degrees from Maine to the Pacific.

Most Americans seem to think that because Russia is a very large country, it is also a very rich country. The truth is, that in proportion to her huge size, Russia does not seem to be richly endowed.

Iron ore is one of the most important of resources. Russia has known, accessible reserves of good quality ore about equal to remaining reserves of like quality in the United States.

Coal is to be found in twenty of our states. We are blessed with nearly half of the world's known reserves. Russia has comparatively few coal deposits, totaling some 20 per cent of the world's reserve. A minor part of Russia's coal is conveniently located in the Ukraine. This coal is difficult and costly to mine and none too good in quality. The bulk of Russia's coal is located in central Siberia. It is of excellent quality and easily mined, but it is 2500 miles from Moscow and 2500 miles from the Pacific.

Russia has large timber reserves, about a fourth of the world's supply. Vast areas in the north, stretching across Siberia, are heavily wooded. But the rivers in this area all flow toward the Arctic Ocean. They are frozen over at their mouths most of the year. The timber is there but most of it is likely to stay there for quite a while.

Russia has about one-eighth of the world's known reserve of petroleum. Most of it is located in the regions bordering on the Caspian Sea. Comparatively little natural gas is associated with the Russian oil wells. They do not pipe this gas over vast distances, as do we.

Russia is primarily an agricultural country. But even in this respect, her assets tend to be exaggerated. Tremendous areas are devoted to desert, to tundra, to forest. In much of Siberia the winter cold is too extreme to permit agriculture. Russia's climate, in general, is comparable to that of Canada and is less favorable than that of the U.S.A. The steppes of the Ukraine, Russia's best farm area, is, like our Kansas, subject to drought. Two years out of five are marked by some crop failure. Russia has less good arable land per capita than do we and its fertility is deteriorating.

Americans have heard much about the Dnieprostroy hydro-electric development. In consequence, they are apt to think of Russia as a land of vast water-power possibilities. The truth is quite the opposite. Most of the area of Russia is flat and the rivers are sluggish. The average rainfall, over most of the country, is light. The climate, in general, is dry, the evaporation great. These factors all mitigate against waterpower. Russia has nothing to compare with our Niagara, nor our Columbia River.

To make a long story short, the industrialization of Russia is an uphill task. It is based on paucity and inaccessibility rather than an abundance of resources.

Russia is such a large country. How about transportation?

Russia's transportation problems are formidable. She has about 2½ times the area of the U.S., but she has only one-fifth of our railroad mileage. Her rail lines are largely main arteries of travel.

In the U.S., thanks to the Great Lakes, the Mississippi and Ohio Rivers, our two long seaboards and our Panama Canal, our water-borne domestic freight substantially exceeds our rail-borne freight.

Water transport, by river and by sea, represents only a small fraction of Russian domestic freight movement. Her landlocked and ice-bound geography does not lend itself to water traffic.

Transport is a serious problem to the Russians. Their distances are great. Their resources are scattered; they have few highways; fewer pipe lines. Their railroads must carry the burden. Thus far, they have managed, after a fashion.

If you spend a few nights riding through Russia in so-called (and well-named) "hard cars," the shortcomings of Russia's transport will be well imprinted on your memory and also on your anatomy.

Further, by way of background, can you tell us a little about Russia's industrial status prior to the Communist Revolution?

In pre-war Imperial Russia, large industry, represented in mining and manufacture, was largely dominated by foreign capital in the form of concessions. Large profits were made and were exported from the country. Plants were poorly maintained. Working conditions were bad. Foreigners held the key positions. Labor was exploited. The picture seems to have portrayed capitalism at its worst. The pendulum was far off-center.

The wealthy class of old Russia did not finance the industrial development of their own country because they were land poor. Furthermore, they feared that industrial development would undermine their positions of privilege.

Czarist rule rested on a tripod. The czars kept the people ignorant through lack of schooling. They kept them impotent with a plentiful supply of vodka. They played on their superstition, working in cahoots with a church which was highly mystic and ritualistic and engrossed in its temporal power.

Having this background of experience, it is quite understandable why the Russians may not fully comprehend our concepts of free enterprise, democracy and religion, and why they were vulnerable to exploitation under a pretense of liberalism.

Could you give us a thumb-nail review of the events which have transpired since the revolution?

The revolution of 1917 was followed by three or four years of more or less complete chaos. The pendulum swung to the extreme left. The leaders attempted to operate the country according to the theories of Marx and Engel. Pure communism was tried. It resulted in disorganization and led to the famine of 1920. The American Relief Commission under Mr. Hoover came to the rescue, incidentally sowing the seed of better American-Russian relations.

Having unwittingly demonstrated to the world the impracticability of pure communism, the communists determined to compromise. They established what was known as the New Economic Policy —N.E.P. They retained state ownership of major industry but they permitted private enterprise to function in lesser industry and in the realm of merchandising. As a result of this compromise, some semblance of order was restored and recovery from the effects of the war and the revolution got under way. This arrangement lasted for a period of about five years, from 1922 to 1928.

The communists were never enthusiastic about the N.E.P. They realized that with agriculture, their major industry, functioning on an individualistic basis and with merchandising in private hands, they were far from their professed goal. By 1928, they decided that the country had recuperated sufficiently to withstand another dose of radicalism. So they embarked upon the First Five-Year Plan for state-owned industrial development, and they started a program of repression of private enterprise through imposition of onerous regulations and the levying of ruinous taxes. In a few years, private enterprise died a death of suffocation. I repeat; private enterprise died a death of suffocation.

By 1930, the communists decided that the time was due to wrench agriculture from the private control of the peasants and to collectivize the farms. There were many reasons. These were among the foremost:

1. It was considered to be too inconsistent for a socialized state to have its principal industry privately controlled.
2. A major program of industrial development required financial subsidy for adequate agricultural production. The communists were too much beholden to the peasants, whose voluntary cooperation they could not win in the face of the short supply of consumers' goods.
3. Adequate agricultural development required the consolidation of the multitude of small, peasant holdings in order that modern methods of farming might be employed. Peasant farming was generally crude.
4. The industrialization of the country required a large-scale shift of population to the cities. This was feasible only if agriculture was modernized.

The forced collectivization of the farms and the "liquidation of the kulaks," or more prosperous and influential peasants, disorganized the existing structure for agricultural production before the state was ready to institute the new methods. There was neither adequate farm machinery nor capable leadership to effect the transition to large collective farming so quickly. As a result, agricultural production slumped and another famine resulted in 1932.

The first Five-Year Program, which started in 1928, was directed primarily to the development of basic industries, such as metallurgy, petroleum, transportation, electric power production. This was due, in part, to the fact that these industries are fundamental, but it was also due, in considerable measure, to their military significance. For the communist regime has been convinced, from the beginning, that Russian military strength is essential to the realization of its expansive program.

The harsh disciplines imposed by the government in collectivizing the farms and in forcing industrialization, caused much dissatisfaction, even among party members. Many altruistic communists really expected and hoped to see some measure of democracy and liberty in their country. They were shocked to note the ever increasing severity of repression. They could see that their ideals were not being realized. They felt that they had won the revolution but were losing the peace. Opposition to the regime was simmering.

The purge pogroms of 1937 were directed at suppressing this disaffection. Many of the better element of the communists and a multitude of non-communists were liquidated. The mailed fist of the secret police struck relentlessly, murdering thousands and impressing millions into slave labor encampments with only perfunctory secret trials. As a red herring, a grand-stand trial of a few top communists and military leaders was staged in Moscow. They were charged with collaborating with a foreign power, Germany. The same Vishinsky who was the prosecuting attorney in this trial, has more recently fired at America a broadside of accusations. Having observed Vishinsky in action, you can judge for yourselves the degree of merit of this publicized trial.

It was while these purges were in progress that the new Soviet Constitution was adopted. It served as good window dressing to obscure the strong reactionary trend. Beyond this, it had only perfunctory significance. It has never been more than a show piece.

It has been asserted that in World War II, the Russians wrote in blood their loyalty to the Soviet regime. But the communist leadership by their own actions belied this statement. I quote from a letter from a Russian army officer which was dispatched to me from Germany through an uncensored channel. He says, "The familiar bidding 'to

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Russia and the Communist Challenge

(*Continued from Page* 7)

crush the class enemy' was replaced by a call for defense of the Motherland. There was no mention of the cause of communism or of the world revolution. The concept of patriotic war was substituted. The people were given the scent of democracy and beguiled into the defense of tyranny."

We should not overlook the significant fact that, when the Germans first invaded Russia, they were met with greetings and with flowers. Opposition was desultory. Only after the Germans had stupidly and arrogantly rebuffed this welcome did the Russian people conclude that Hitler's tyranny was no improvement upon their own brand. Had the Germans been wise, and benevolent, they could have won the assistance, rather than the opposition of the Russian people.

Were Russia's accomplishments under the Five-Year Plans remarkable?

The Russian rate of accomplishment in constructing new industrial facilities during the first Five-Year Program was about two-thirds of America's accomplishment during the same period, a very subnormal period for America.

In nine years, between 1928 and 1937, the Russians increased their annual steel-producing capacity by about 14 million tons. In five years, between 1940 and 1945, the United States increased its steel-making capacity a similar amount. Our five-year increase was about equal to their nine-year growth. And our five-year increase was equal to the entire Russian steel production as of 1944. The Soviet program was effectuated with foreign aid and with the help of slave labor, utilizing much imported equipment. We accomplished our increase in facilities while we were preoccupied with serving as the arsenal of democracy.

The accomplishments of the Russian Five-Year Plans are not to be deprecated. From their viewpoint, they were stupendous. From our viewpoint, they were not impressive.

What is your impression of the Russian people? Can we be friends with them?

The Russian people, in general, are of good inherent character, the product of a rugged climate and centuries of hardship. Like our own pioneering forefathers, most Russians are plain and wholesome. Many are uncouth and crude. But they are genuine. They are friendly and hospitable. They are uncomplaining. They are receptive and appreciative. They are artistic and aspire to culture. The whole world knows that they are patriotic and that they are brave. Because their culture and most of their technology has been imported from Europe and from America, they are humble and tend to respect rather than to scorn the foreigner. In the average Russian makeup there is no semblance of the arrogant, domineering attitude which prompted Germany's conquests and caused her to become the curse of Europe. The Russian people as a whole are not to be hated; rather are to be pitied. Theirs has been a hapless role in history.

Is the Russian government representative of the temperament of the Russian people?

Decidedly not. The communists are but a small minority. They deluge the people with oceans of propaganda trying to make them conform to the communist viewpoint and they try zealously to shield them from the truth. But the Russians, being basically intelligent and discriminating, are skeptical. They are sold on communism in about the measure that Republicans were sold on the New Deal.

Russia has realized that education is an essential concomitant of industrial accomplishment. But educated people tend to think. And thinking people are a peril to dictatorships.

It is said that the Russian checka has caused liquidation or enslavement at a rate averaging one person from every other family. Do you think that such procedure leads to enthusiasm for or loyalty to the regime?

The Russian people are our potential friends; their government is not.

We hear so many conflicting stories about Russia. Is it as good as it is pictured by some or as bad as it is depicted by others?

My answer to your question would be that one can find in Russia a few things to admire and many things to deplore.

What do you find in Russia to commend?

Perhaps the outstanding accomplishment of the Soviet Union is its job of educating the Russian people. To be sure, that education has followed a carefully oriented pattern, heavily salted with propaganda and steeped in ideology. Nevertheless, the great masses of the people have been freed from the bonds of illiteracy, and the youth of the nation have been given training vastly superior to that accorded any previous generation. The country has been flooded with bulletins and booklets of generally informative character. Perhaps the Russian masses are not yet able to see and evaluate things in their true light, but they are no longer submerged in crass ignorance.

Supplementing its educational program, the Soviet Government has substantially enlarged participation in sports and the provision of recreation facilities.

In some respects, in my opinion, the Russians are more advanced than we. In the matter of democracy, for instance. I do not refer to political democracy. I refer to democracy in the sense of absence of snobbishness and bigotry and the practice of tolerance. Russia is a polyglot nation, as much a melting pot as is America, but the concept that men should be afforded equal opportunity and equal privilege, irrespective of accidents of birth, finds practically universal acceptance in the Soviet Union. Can we truthfully say as much for the United States? Or must we admit that we, too, are somewhat tarnished with the theory of a master race?

The Soviet government has attacked the problem of alcoholism more rationally than have we. They have not attempted prohibition. Their approach is through education. They endeavor to convince the youth of the nation, in the schools, of the folly and stupidity of over-indulgence, and the wisdom and merit of abstinence and moderation. Drinking is not invested with glamour. There are no liquor ads in Russia.

In its attitude toward labor, the Soviet Union seems to have something on the ball. Russia continually adjures its workers to put forth their best efforts in order to improve their status; which makes sense. The slow and inefficient are encouraged to emulate the more capable. In America, to a considerable degree, labor unions cajole their members into doing less and less, that they may receive more and more; which makes nonsense. We slow the pace to that attainable by the dullest laggard.

In closing the case for the Soviet Union, I would point out the fact that in the United States there are about as many lawyers as there are engineers. In Russia, there is only one lawyer to five engineers. Could I say more?

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WSE Traffic Recommendations Versus

THE BARTON REPORT

The ways and means of improving the traffic situation in Chicago, as outlined in the report and resolution of the Civic Committee of Western Society of Engineers, was presented in the December, 1948, issue of MIDWEST ENGINEER. Mention was made of the report being prepared at that time by George W. Barton, familiarly known as the "Barton Report," with a note that it, also, would be reviewed soon. This report is a well-prepared, clear analysis of present practices in the city and a recommendation of a better way of doing a big job. Some seventy pages long, it is too bulky to present here completely. The following summary has been prepared by Leon D. Urbain, Chairman of the Sub-Committee on Streets, Traffic and Terminals, of the Civic Committee.

The "Barton Report" is divided into four sections, covering: I. What Street Transportation Means to Chicago, II. Analysis of Chicago's Current Program, III. Recommended Plan for Chicago, IV. Strengthening the Chicago Street Traffic Commission.

According to Part I of the report, 60 per cent of the patrons and employees in the Loop are dependent on street transportation. 65% of the livestock arriving at the Chicago stockyards and 90% of the milk and milk products received in Chicago come by highway. Local distribution of commodities is by truck. Raw materials go to factories partly by truck, and finished goods are removed the same way. Many new communities have been built, depending entirely on rubber-tired vehicles, being far removed from railroads and elevated. Not much of this type of statistics is needed by the average reader to impress upon him the value of the streets and transportation thereon.

In dollars and cents, Chicagoans' present stake in street transportation is: Passenger autos and taxis registered in Chicago, $525 million; trucks and busses, $430 million; auto service facilities (sales, repair, fuel, etc.) $150 million, not including petroleum production or auto manufacturing plants; street car system (CTA), $75 million; city streets and boulevards (estimated value of replacement only, not including such items as right-of-way), $675 million. This investment totals $1,855,000,000.

Is that investment worth protecting? Is it being protected? For the past several years, Chicago has been at the bottom or near the bottom (second from there in 1947) in safety. Out of fourteen entrants, we were from sixth to eleventh in traffic engineering points gained in a National Safety Council Survey. Truck fleet operators, and passengers on CTA equipment, lose many man-hours daily through congestion. The cost of this loss by accident and congestion (mostly preventable by sound traffic engineering, but possible only if there is a competent staff of sufficient size and authority) is listed in the report as:

Cost of accidents in 1947, $33 million; passenger vehicle and taxi time loss, at two cents per vehicle minute, $17,100,000; commercial vehicle time loss, at ten cents per vehicle minute, $23,800,000; bus and streetcar time loss at one cent per passenger minute, $31,500,000, or a total of $105,400,000 per year.

Chicago is seventh down the list in large cities for vehicle registration, all those ahead of us also being smaller in size. Cleveland, Ohio leads.

Fifteen different agencies have a hand in designing and regulating Chicago traffic facilities. They are:

Department of Subways and Superhighways. Studies street traffic and transportation needs. Plans and constructs superhighways to meet those needs. Integrates superhighways into street system. Correlates transit operation on surface streets, subways and superhighways. Designs and constructs parking terminals.

Chicago Transit Authority. (which, incidentally, is really a county-wide proposition, being authorized in its charter to operate anywhere in Cook County, not merely in Chicago). Studies street traffic and its relation to transit operation. Determines bus and street car routes, schedules and stops and their influence on street traffic. Operates busses, streetcars and rapid transit system.

Chicago Park District. Designs, constructs and maintains boulevard system which includes many of the principal traffic arteries of the city. Determines traffic plans and regulations for park boulevards which form a network spreading over much of the city and intersect hundreds of city streets. Designs, purchases, installs and maintains traffic control devices for the boulevards. Enforces the traffic laws on the boulevards.

Public Vehicle License Commission. Determines taxicab requirements in Chicago and issues appropriate licenses. Examines, licenses, suspends or revokes licenses of chauffeurs. Authorizes taxicab stands. Determines mechanical performance standards for motor vehicles and inspects vehicles to assure compliance with these standards.

Police Department. Enforces traffic regulations as established by higher authorities. Investigates traffic accidents and works to prevent accidents. Establishes and operates emergency traffic regulations. Directs traffic at congested locations.

Chicago Plan Commission. Studies current street traffic as a basis for forecasting future street transportation requirements. Develops a future city plan that will include an efficient and fully integrated street transport system. Plans streets, parking terminals, truck terminals and their coordination with other forms of transportation.

City Council Committee on Traffic and Public Safety. Conducts plans and surveys relating to the function, use and improvement of streets—with respect to facilitation of traffic and the safety of the pedestrians. Studies traffic matters referred to it by the City Council and recommends to the Council improvements in traffic facilities and their use.

City Council. Enacts traffic regulations and appropriate funds for traffic improvements. Approves permits for driveways, truck terminals and other specific traffic improvements.

City Clerk. Approves and issues licenses for commercial off-street parking areas.

Department of Buildings. Issues permits for building construction including

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The Barton Report

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structures that may prove to be major traffic generators such as bus terminals and parking garages.

Chicago Street Traffic Commission. Considers action proposed in the field of traffic facilitation and accident prevention by any city department or agency and makes recommendations to that agency, the City Council or the Mayor.

Department of Streets and Electricity. Conducts studies of street traffic accidents and congestion and other conditions affecting the safe and convenient use of the streets; collects facts regarding the effect and operation of regulations controlling street traffic; plans and directs the placing, mantenance and operation of traffic signs and signals, street nomenclature signs, loading platforms, safety zones and islands and street traffic marking.

With so many agencies concerned in one way or other with the street transportation system, it is evident that different agencies may attack an identical problem with distinctly different objectives in view; that great duplication of effort is possible; that coordination of programs and uniformity of treatment is difficult; that direct conflict may arise.

As stated at the beginning, we cannot reprint the entire report, but we are taking these facts from it because so few people in this city realize the sad conditions under which the Traffic Engineer must operate, as a person with little authority, under a Commissioner who is already preoccupied with the duties of his department, and with a staff that does not even include a draftsman!

In Part II Mr. Barton brings out the many improvements made in days gone by, when Chicago was considered to be one of the leaders in the street traffic field. Some of the developments were the Loop signal system, the coordinated and progressive lights on Michigan avenue and La Salle street, the area-wide curb parking prohibition in the Loop. Since the days of these innovations Chicago has dropped to its present unenviable sixth place or lower.

Photographs and description show the almost total lack of planning for many recent years. The latest area traffic flow map is over ten years old. The city now relies on a once-a-year cordon count of traffic in the Loop for its work.

(Some of the independent businessmen, through their organization known as the State Street Council, in cooperation with the Chamber of Commerce, have recently spent PRIVATE money to finance their own studies of the situation as it applies to the Loop area, and Mr. Barton was also retained for this work. Their "Barton Report" is completed, but not yet publicly released.)

Attention has been repeatedly called to the new superhighways, with emphasis on the fact that these will not be cure-alls, but will demand more traffic studies as they change the flow of vehicles from their present routine to a new one, arising from the motorists' desire to make use of the new facilities. Feeder roads and terminal facilities will become a "must" if the new highways are to be successful.

An analysis of the work by Chicago's traffic engineering organization, which is a division of the Bureau of Streets under the Department of Streets and Electricity, discloses several critical deficiencies here detailed.

The most vital function of the traffic engineer is planning; studying existing traffic flow; forecasting traffic requirements; planning control on existing streets (one-way routings, signal systems, parking regulations); developing refinements and simple improvements in the street layout; studying all forms of urban development which affect the street pattern and street usage; planning for the movement, the terminals, and the intermediate stopping of all street users—automobile, taxi, truck, bus and streetcar—with due attention to the pedestrian.

Traffic Engineer Limitations

This most important field of activity is almost entirely lacking in the present program of the traffic engineer. He must limit his studies to the annual cordon count around the Central Business District and to the analysis of individual locations largely as dictated by complaints from citizens. Demands by routine cases have precluded the development of an over-all program to serve as a guide and a goal on which effort might be concentrated. Even as simple and necessary a planning tool as a city-wide flow map has not been available for over a decade.

The report also covers the poor conditions of traffic signs and maintenance, and the wasteful method of handling the city's crews, in which all must assemble at one place just west of the Loop, then be transported to all parts of the city to work, then brought back to this one spot for dismissal.

General Objectives

General and specific objectives must be clearly defined in outlining a street transportation program for Chicago. The general objectives are to:

1. Attain the maximum utility from the urban street system in its present form.

2. Develop and continuously revise a street transportation plan for Chicago that will assure economy of program and improvements and meet future street transportation needs.

3. Attain expeditious street traffic movement with maximum safety.

4. Raise the traffic plan to a level of proficiency comparable to the enforcement program now inaugurated, in order that full benefit may be realized from the manpower and money expended thereon.

The specific objectives are to:

1. Consolidate under one administrative agency of government all functions that primarily relate to the use and operation of the street system.

2. Provide the machinery for coordinating the agencies of government in which the street transportation functions are secondary.

3. Place the consolidated agency on an organizational level commensurate with its duties and responsibilities and necessary to the accomplishment of its mission.

4. Equip this agency with manpower and budget as is economically warranted and as required for the performance of its duties.

5. Clarify in law the authority and responsibilities of this agency and eliminate administrative conflicts, duplications and uncoordinated procedures.

To institute such a revision through a single abrupt step might disrupt operations in a number of departments in Chicago's governmental structure. Instead it appears wise to view such unification as a goal to be attained as rapidly as possible through a series of planned and logical steps.

A four-phase program is recommended by the report for Chicago:

1. The creation of a new Department of Street Transportation.

2. The equipping of this department with necessary staff, budget and authority.

3. The reconstitution of the Chicago Street Traffic Commission to enable it to coordinate effectively the governmental functions related to street traffic which are not grouped under the new department.

4. The gradual assimilation into this department of functions primarily relating to street and traffic planning and to the operation of the street system.

(Note similarity of Mr. Barton's recommendations to those made by the Civic Committee.)

The remainder of this section describes ways and means of developing this new department in a workable manner, by easy steps rather than by trying to do the whole job overnight.

At this point it might be well to mention that the traffic engineering section has been raised to a bureau by ordinance at the last council meeting. However, no more money or staff is available, so we have a bureau with nothing to work with. We must now continue to push and demand the next step—adequate funds and authority to begin to pick up some of the jobs it should have been doing for many years.

A comparative list of the present staff and the suggested organization is given, together with suggested means of getting there. The 1948 budget for the traffic engineering section is given as a grand total of $1,230,816, and itemized. The proposed budget is $1,356,094, also itemized and discussed at length.

Recommend New Department

The recommended Department of Street Transportation would:

Study street traffic and collect data upon which to forecast future traffic requirements.

Plan and continuously revise the street transportation plan for Chicago, coordinating with the Chicago Plan Commission and other governmental agencies involved.

Design and initiate action on refinements in the street system, construction to be done by other departments through a transfer of funds from the budget of the Department of Street Transportation, upon requisition by that department.

Program and establish priorities for improvements in and modernization of the street system, including terminals.

Prepare or review and approve the functional design of all street traffic facilities.

Plan and direct the operations of all forms of street traffic, working through a reorganized traffic commission to attain coordination of all transportation agencies.

Install, operate, and maintain signs, markings and similar control devices.

Determine need for and direct operations of automatic traffic signals, installation and maintenance to be done on requisition by other departments through a transfer of funds.

Approve the location and functional design of buildings and improvements that will affect street traffic flow.

Approve and designate all taxicab stands, bus and truck loading zones and similar terminal facilities located on the public streets.

Operate or direct operations of any publicly owned parking facilities.

Exercise any controls established by the public over commercial parking areas.

Install, operate and maintain parking meters and collect receipts therefrom.

Analyze traffic accident records and institute remedial measures.

As soon as possible after its establishment the new department should review the current status of street traffic control facilities, collect data indicative of need, develop a broad program of action and prepare a budget for future years providing both current maintenance and capital improvement items.

As Mr. Barton states in Part IV, it is recognized that some time will elapse before all desirable consolidations are effected and that there always will be a need for especially close coordination with other agencies of city government, the traffic functions of which cannot be included in the Department of Street Transportation. A strong coordinating agency, therefore, is required to produce unity of action during the evolution of the new department as well as thereafter.

In brief, the coordinating commission would:

Establish policies, warrants and standards to govern broadly the plans and operations of departments concerned with streets and their use.

Approve programs of the several departments and obtain concurrence and collaboration of all departments.

Review and approve periodically the acts of the several concerned agencies, especially the Police Traffic Bureau and the Department of Street Transportation.

Serve as a clearing house for all matters relating to streets and their use whether the problem is in the field of enforcement, engineering, betterments, engineering control or education.

Relieve the legislative branch of government of the burden of detailed planning, study and coordination on all matters relating to street transportation, accidents and congestion.

Mr. Barton has certainly not asked for the impossible for the first year of operation. The wording of a proposed ordinance to establish this new street traffic department is given, and its staff outlined, with suggested salaries.

The Chicago Street Traffic Commission is set up, consisting very nearly of the same people proposed on the "Advisory Board" of the Civic Committee suggestion, and for the same purpose. This group, however, has served in an advisory capacity instead of aggressively studying the problems and developing a program. It is recommended that this commission include other concerned governmental agencies and be granted more definite authority by ordinance. In addition to its present membership, the director of the Chicago Transit Authority, the city engineer, Commissioner of Public Works, the traffic engineer and chief of police of the Chicago Park District should be included.

In the Appendix of the Report, specific requirements for education and experience of the principal staff members are outlined.

If we may be permitted a slight divergence from the job of analyzing the "Barton Report," we would say that it is evident that two separate groups of engineers, working independently and at different times on the same subject, have arrived at substantially the same conclusions. The City paid good money for the "Barton Report"—it received an excellent document for its money. It received also the "know-how" to go ahead and do something about its traffic set-up. Will the city take advantage of this material?

Personals

Thomas W. Fawell has been employed by Western Society as Assistant to the Secretary. He will be custodian of the quarters during the evening meetings.

Before his retirement, Fawell was associated with the Illinois Bell Telephone Company.

James M. Darbaker has been appointed general manager of sales, Carnegie-Illinois Steel Corporation. Mr. Darbaker since 1947 has been Chicago district manager of operations.

Power Conference To Open April 18

More than 80 leaders in the fields of power production, transmission, and consumption will speak at the 11th annual Midwest Power Conference, sponsored by Illinois Institute of Technology and cooperating institutions April 18, 19, and 20 in the Sherman hotel.

Held annually in Chicago, the conference provides an opportunity for all persons interested in the nation's power problems to exchange information and study mutual problems.

Sessions of the three-day conference will include:

Steam generators, power system planning, feedwater treatment, network analyzers and analog computers, small power plants, control characteristics of industrial processes, central station equipment and operation, distribution systems, maintenance problems, heating and air conditioning, electricity in farm industry, steam contamination, heat pumps, diesel power, electrical sales, electronics applications, and gas turbines.

In addition, a number of general sessions have been included in the program by R. A. Budenholzer, professor of mechanical engineering and director of the conference.

The complete program appeared in the March issue of MIDWEST ENGINEER.

Midwestern institutions which annually cooperate with Illinois Tech in sponsoring the power conference are:

Iowa State and Michigan State colleges, Northwestern and Purdue universities, Universities of Iowa, Illinois, Michigan, Minnesota, and Wisconsin, Western Society of Engineers, Engineers' Society of Milwaukee, National Association of Power Engineers, Illinois chapter of American Society of Heating and Ventilating Engineers, Illinois section of American Society of Civil Engineers, and the Chicago sections of American Institute of Chemical Engineers, American Institute of Electrical Engineers, American Institute of Mining and Metallurgical Engineers, and American Institute of Mechanical Engineers.

For additional information, telephone Western Society headquarters, RAndolph 6-1736.

RAILROAD FAIR

Preparing for Repeat Performance By Redecorating, Adding Exhibits

Summer can't be far off! The national Railroad Fair, which ranked last year as the most heavily attended attraction on the country's vacation program with a record attendance of 2,500,813, is beginning to stir on Chicago's lakefront for a repeat presentation scheduled to open June 25th.

Timed to take advantage of spring thaws, workmen will move in this week to transform the fairgrounds from winter rest to a gigantic spectacle designed to outdraw last year's 50-acre success.

By opening day all plans for this year's new entertainment features, displays and exhibitions will be translated into reality, according to Major Lenox R. Lohr, president of the railroad industry's exposition.

Transplanting of several hundred trees is under way to make room for additional exhibits and greater parking facilities adjoining the exhibit buildings of America's leading railroads.

Next step in the enlarging, de-winterizing and refurbishing process is expansion of facilities for the comfort and convenience of visitors. These include extension, widening and black-topping of walks; erection of covered ways as protection against sun and sudden showers, and the installation of additional facilities.

Whole structures are being moved to other locations when present sites are found to conflict with plans for new exhibits and entertainment features.

As milder weather progresses, the tempo of Fair activities will be stepped up. Last year's favorite displays and exhibits will receive fresh coats of paint and gallons of brass polish will be expended on such popular features as the narrow gauge Deadwood Central train, which was transplanted from its historic operating ground in the Rocky Mountains.

Among the highlights of the 1948 show to be retained will be, the gigantic pageant, "Wheels a-Rolling," which depicts the development of transportation from the country's earliest days to the present. A thousand seats will be added to the grandstand which last year drew an attendance of 20,000 spectators for its four daily performances. More than 1,200,000 visitors viewed the pageant last summer.

The Deadwood Central system will be in operation again, with a second narrow gauge train, to be supplied by the Denver & Rio Grande Railway, traversing the mile-long route. Last year almost a million riders climbed aboard the historic train.

The General Motors Train of Tomorrow, giving a startling promise of previously unknown pleasures and comforts in travel to be enjoyed in the future, will be back again. Also returned will be enlarged and radically improved versions of the Old New Orleans show of the Illinois Central System; the New Mexico pueblo village with its hundreds of Indians, sponsored by the Santa Fe; the beautifully landscaped Florida exhibit of the railroads of the Dixie Route; the dude ranch and rodeo of the Burlington, Great Northern and Northern Pacific lines; and the country village presentation with its square dancing and hill-billy fiddling put on by the Rock Island Railway.

New attractions to make their debuts at the 1949 Fair are those of Western Pacific and the Denver & Rio Grande lines. The former will operate on the shore front slopes of Lake Michigan a real San Francisco cable car, brought east from its regular daily job on the steep streets of the Golden Gate City. The latter is building a small sample of the Rocky Mountains, using real red stone transplanted from the foothills near Denver. The mountain will cover two theatres that will be reached by an entrance reproducing in complete detail the entrance to the famed Moffat Tunnel.

Commenting on the outlook for this summer's exposition, Major Lohr said: "The new attractions we plan, plus the presentation of completely revised versions of our most successful past offerings, should result in an even more attractive Fair than that which last year won the plaudits of press and public alike."

The Economic Outlook in Relation to Construction

What can business do to prevent the increasing reluctance to spend money from going so far that it produces a decrease in incomes, expenditures, production, and employment?

What should be the role of government?

What can the construction industry do to stimulate production and employment during 1949?

Presented by Dr. Sumner H. Slichter, Harvard University, before The Associated General Contractors of America, Inc., in New York City, February 28, 1949

The most important thing about the present business situation is the growing reluctance of consumers and business concerns to spend money. Consumers and enterprises have been willing to spend faster than they received income, with the result that expenditures increased from month to month. Today, however, reluctance to spend has reached such a point that there is danger that the total volume of spending will drop.

Let us look at the figures on the relation between incomes and spending. The best way to show the willingness of individuals to spend is to compare the relationship between personal incomes after taxes and expenditures for consumer goods and services. Between 1946 and 1947, for every dollar increase in consumer income after taxes, individuals raised their outlay for consumer goods by $1.21. Between 1947 and 1948, however, the story was very different. Personal incomes after taxes grew by $16.8 billion but expenditures on consumption increased by only $12.0 billion. In other words, for every dollar increase in consumer income after taxes, individuals raised their expenditures by only 71 cents.

Even more marked was the difference between the advance in consumer incomes and the increase in expenditures for consumer goods during the latter part of 1948. Between the second and fourth quarters of 1948, for every dollar rise in personal income after taxes, individuals increased their expenditures on consumer goods by only 49 cents.

Business concerns are likewise becoming more reluctant to spend and are bringing the amount of their spending closer to their incomes. All non-agricultural business concerns increased their expenditures on plant and equipment by $5.4 billion between 1945 and 1946; by $4.2 billion between 1946 and 1947; and by $2.6 billion between 1947 and 1948. Furthermore, business concerns are less inclined to seek outside money in order to spend beyond their incomes. In 1947, for example, out of every dollar spent on investment by corporations, 54.4 cents was provided by internal funds, such as depreciation allowances of plowed-back earnings, and 45.6 cents came from the outside. In 1948, however, 66.9 cents of every dollar of investment expenditure was provided by internal funds and only 33.1 cents by outside money. With the rate of saving by individuals rising and with the demand for outside money dropping, it is easy to see that the upward pressure on prices is weakening.

The crucial question confronting business in 1949 is whether the growing reluctance of enterprises and individuals to spend can be halted before it produces a drop in total spending and a recession. People are still willing to spend a little more than their recent incomes with the result that total incomes have been rising.

By the end of 1948, however, the rate of increase in personal incomes had become very slow—it was less than one per cent (at the seasonally adjusted annual rate) between the third quarter and the fourth quarter of 1948. Hence a small further drop in willingness to spend would produce an actual drop in the volume of spending.

What can business do to prevent a drop in the total volume of spending—or to make a given volume of spending produce a large volume of production and employment? Under the American system of private enterprise the responsibility for maintaining the volume of employment (or bringing about the normal increase in the volume of employment) is primarily the responsibility of business. The government has the responsibility of not aggravating the difficulties of business, and it also has the responsibility of offsetting the failure of business to maintain employment in the event that business fails to do its job.

The primary job of maintaining and increasing employment, however, is that of business, and the year 1949 is the first year since the shift from war production to peace-time production that business has had a real problem of maintaining employment. Back in 1945 and the first half of 1946 business did a magnificent job of maintaining employment during the conversion from war production to civilian production. Will business be able to do an equally good job in 1949? Let us look at the problem and see what can be done about it.

Role of Government

To begin with, it is important that the government does not aggravate the problem. President Truman has made it evident from his recent statements that he does not understand the problem. He thinks that the country is still primarily confronted with the problem of preventing inflation, and he has advocated substantial increases in taxes. This is a major blunder. The President has received bad advice from his Council of Economic Advisers and, if the published statements of the Secretary of the Treasury are to be taken at face value, from this official as well.

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Fortunately, Congress sees the situation more plainly than the President or his advisers, and is not likely to increase taxes in the immediate future. Some trade union organizations have advocated higher taxes and have submitted memoranda favoring higher taxes to the President. Higher taxes at the present time would create unemployment and are contrary to the interest of union members. Consequently, the unions which have submitted memoranda on this point to the President should withdraw them, and all unions, in the interests of their members, should oppose higher taxes at the present time.

Fortunately, the magnitude of the problem confronting business is substantially limited by large recent and prospective increases in government spending. During the second half of 1948, total cash payments of local, state and federal governments to the public were running at an annual rate of $4.6 billion above the first half. During 1949 the cash payments of the local and state governments will rise by about $1 billion to $2 billion above 1948 and those of the federal government by between $7 billion and $8 billion. The cash surplus in the federal cash budget, which was approximately $8.3 billion during 1948, will virtually disappear — though enactment of the much-needed social security program, if effective on July 1, 1949, would produce a moderate cash surplus.

Favorable Factors

The task of business in maintaining production and employment is made easier by a number of favorable circumstances:

1. Incomes have recently been outrunning prices. In December 1948, personal incomes after taxes were running at the annual rate of 6.5 per cent above December 1947, but the consumers price index was up only 2.6 per cent—a gain in the purchasing power of personal incomes of about 3.8 per cent, or $7.6 billion a year at present prices.

The gain in incomes relative to prices has been particularly pronounced since mid-summer. Between June 1948 and December 1948, personal incomes after taxes rose from an annual rate of $191.5 billion to $200.4 billion, an increase of 4.6 per cent. In the meantime, the consumers price index dropped slightly from 171.7 to 171.4. In other words, the purchasing power of consumer incomes has risen nearly 5 per cent since the summer of 1948.

2. Consumer holdings of cash are very large — about $10.8 billion more than three years ago.

3. Consumer short-term indebtedness, although considerably larger than several years ago, is still low in relation to personal incomes after taxes. In December 1948, total consumer credit was 8.0 per cent of personal income after taxes in comparison with 12.0 per cent in 1940.

4. The three-year post-war boom has not resulted in any great accumulation of inventories — though actual inventories are probably larger than the figures indicate. There has been no increase in inventories relative to sales since 1946 in manufacturing and only small relative increases in wholesaling and retailing. In all cases the ratio of inventories to sales is substantially less than in 1939 or 1940 when goods were obtainable on short notice and when it was feasible to carry small inventories.

5. The rate of private investment during 1948 was not high in relation to the gross national product. For example, expenditures on plant and equipment were about $22 billion or 7.7 per cent of the gross national product. Between 1919 and 1923, expenditures on plant and equipment were about 8.8 per cent of the gross national product and between 1926-1929, 9.3 per cent.

6. The backlog of consumer demand is still large in many places. It is true that considerable progress has been made in increasing the number of automobiles in the country. At the present time there are about 34 million passenger cars registered in comparison with 27.4 million in 1940. The average age of automobiles has increased from 5.7 years in 1940 to over 8 years at the beginning of 1949. Hence an abnormally large replacement demand for automobiles still exists. Although the average real income per family is about 25 per cent greater than in 1940, the number of cars per family has not increased as rapidly as the number of families and the ratio of cars per family has scarcely changed.

The backlog of housing demand is still very great. During the last three years there has been an increase of roughly 2.5 million in the number of dwelling units from the construction of new houses and the dividing of old houses into more dwelling units. In the same period, however, the number of families has increased by about 3.0 million. Furthermore, in the preceding 15 years, the number of families had increased by 10.0 million and the number of dwelling units by only 7.7 million. And the rise in real family income, of course, increases the amount of dwelling space demanded.

7. The backlog of business demand is also very large. The investment of the last three years has restored the amount of plant and equipment per worker only to the level of 1929. If the amount of plant and equipment per worker were raised to the amount required by long-term trends, additional investments of about $60 billion in private industry would be required. There is, of course, more plant and equipment in place than ever before, but its average age is abnormally high.

Business Action Needed

What can business do to prevent the increasing reluctance to spend money from going so far that it produces a decrease in incomes, expenditures, production, and employment? There are two principal steps which business can take. One is to adjust its investment policies to present conditions and the other is to adjust its selling policies, particularly its price policies, to present conditions.

1. Adjusting investment policies to the conditions of 1949. In 1947 and 1948 it was appropriate for business to postpone all important investment expenditures which were not urgently needed and which did not promise an early reduction in costs or an early increase in output.

I am afraid that most of the postponement which occurred was a result of the limited capacity of the capital goods industries to fill orders rather than a result of the postponement of orders by business concerns. Nevertheless, the rate of investment in 1948, as I have pointed out, was not abnormally high in relation to the gross national product.

In 1949 expenditures which promise an early return to the concern should be carried out. In addition, however, greater weight should be attached to the long-run interests of enterprises, and managements should not be easily persuaded to postpone the execution of long-run investment plans because immediate business prospects are uncertain.

It has always been a major weakness of the American economy that invest-

ment decisions have been highly sensitive to the short-run business outlook. For many, if not most firms, great attention to the short-run outlook has been a financial necessity, and enterprises which misjudged the short-run outlook or which attempted to base their plans too much upon the long-run outlook have often encountered serious financial difficulties. Nevertheless, there are many concerns which do not need to adjust their investment programs to the short-run business outlook.

Some of these firms will be tempted, however, to cut or postpone investment programs in the hope of getting construction down to a lower cost at later dates. Construction costs are likely to drop moderately as materials become more abundant, labor and managerial efficiency improves, and competition among contractors becomes stiffer. Managements which contemplate postponing investment programs, however, should consider carefully whether the prospective savings in cost are likely to compensate the enterprise for being without improved facilities for about six months or a year.

2. Adjusting selling and price policies of business concerns to the present state of consumer demand. The declining urgency of the demand for goods in many lines requires modification of selling and pricing policies. Certainly the prices which were appropriate when an increase of $1.00 in income after taxes produced a rise of $1.21 in expenditures for consumer goods, do not fit the situation when individuals spend on consumer goods only about 71 cents of every additional dollar of income after taxes.

Business concerns as a whole showed remarkable restraint in raising prices during the last several years when consumers were willing to spend more than their income. Indeed, for three years prices remained below the level required to equal supply and demand, as the steady rise in most prices indicated. Hence the reduction in prices needed to prevent a drop in employment and production is probably not very great.

Many managements will argue that they cannot afford to reduce prices, that their margins are very small. As a matter of fact, costs have risen about as much as prices during the last eight years so that profits per dollar of sales have remained about the same.

Before managements decide that they cannot afford to adjust prices to the growing reluctance to spend money, they should consider the consequences of not reducing them. If prices are not reduced, many people will begin to spend less than their recent incomes. This will mean that expenditures drop, and as they drop, profits will also fall.

I do not know which drop in profits would be greater—a drop resulting from about the same physical volume of goods sold at smaller spread between direct costs and selling prices or a drop resulting from a smaller physical volume of goods sold at an unchanged spread between direct costs and selling prices. I suspect that for business as a whole the difference in profits between preserving volume through accepting smaller margins and sacrificing volume in order to preserve margins is not very great.

Certainly it is better for business in the long run to sacrifice margins in order to preserve employment than to sacrifice employment in order to preserve margins. Furthermore, if business adjusts prices to induce individuals to spend a higher proportion of their incomes on consumer goods, there is a good chance that the greater pressure for lower costs will stimulate efficiency and help enterprises preserve the margins between average direct costs and selling prices.

Up to the end of 1948, as I have indicated, the drop in the willingness to spend had not gone so far as to halt the increase in spending, it had simply caused the volume of spending to rise at a decreasing rate. When the figures for early 1949 are available, they will probably show a more-than-seasonal drop in spending. Furthermore, some of the present employment and the consumer spending based upon it are the result of investment decisions made by business concerns last year or even earlier. As the spending based upon these old decisions is completed, the total volume of spending can drop appreciably.

Hence business should act promptly to stimulate the demand for goods. People have sufficient incomes to buy more consumers' goods than they are buying, income sufficient to permit them to purchase at present prices nearly 4 per cent more than they bought last year. Business has an excellent opportunity to stimulate the demand for goods and to prevent the drop in the urgency of demand from causing people to throw themselves out of work by spending too much less than their recent incomes, that is, by spending so much less that the difference cannot be offset by investment.

How Much Increase Needed

The extent to which business needs to stimulate consumer spending in order to prevent a rise in unemployment depends in the main upon (1) the increase in the work force; (2) the increase in output per manhour; (3) the increase in government spending; and (4) the change in investment expenditures by private business. This ignores the change in foreign trade balances which are likely to be small.

If the labor force grows by the normal amount of 600,000 between 1948 and 1949 and output per manhour rises by about 3 per cent, an increase of about $10 billion in the annual gross product at present prices will be needed to prevent a rise in unemployment. I have already indicated that government expenditures are likely to rise by from $8 billion to $10 billion a year. This would mean a drop of about $3 billion in business expenditures. A small additional drop of business expenditures on plant and equipment is possible, perhaps $3 billion below 1948.

These figures indicate that a rise in consumer expenditures of roughly $6 billion to $8 billion a year at present prices will probably be needed to prevent a rise in unemployment. There is, of course, a possibility that the increase in the size of the labor force will be greater or smaller than the normal amount of about 600,000.

Construction Industry Role

What can the construction industry do to stimulate production and employment during 1949? The answer is the same for this industry as for all other industries—namely offer a better product at a lower price. The industry may answer that it can not afford to do this. Implicit in this answer is the qualification "at present efficiency." Efficiency is not a static thing. The quality and the prices which an industry can offer at the efficiency of 1948 are not necessarily the quality and prices which it can offer at the efficiency of 1949 provided there is an improvement in efficiency.

It is evident that improvements in efficiency are more badly needed now than a year ago. Certainly an improvement

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in efficiency is more important when individuals are spending 71 cents out of every dollar increase in income after taxes for consumers goods than when they are spending $1.21 out of every increase of $1 for consumers goods.

I do not wish to get into an argument over whether or not construction costs are "too high." One can defend them by pointing out that per capita income after taxes is up about 130 per cent since 1940, and that construction costs are up about 80 per cent, or a little more than the consumers price index which is up about 70 per cent. There is, however, persuasive evidence that the construction industry, as well as the country as a whole, needs lower costs.

The rate of private construction is tapering off. During the first quarter of 1948, private construction, in dollar volume, was 33.3 per cent above the corresponding quarter of 1947; during the last quarter of 1948, private construction was only 4.7 per cent above 1947.

Even more impressive are the figures on contract awards. During the first quarter of 1948, contract awards were 23.3 per cent larger than during the first quarter of 1947; during the last quarter they were 2.3 per cent below the corresponding quarter of 1947. In January 1949, contract awards were over 20 per cent below January 1948.

The new housing starts in the first half of 1948 were 33.1 per cent above 1947; in the latter half they were 8.9 per cent below. The backlog of demand for housing, of course, is still enormous. Nevertheless, it is important to realize that the number of marriages has been dropping for several years. It reached a high of 2.3 million in 1946. In 1947 there were 2 million marriages and in 1948, 1.8 million. In 1949 the number is likely to drop down to about 1.6 million which will be fairly close to "normal."

With the drop in the number of marriages, the urgency of the demand for housing will drop. The case is quite convincing, I believe, that the construction industry, in order to sustain the volume of private building in 1949 at the levels of 1948, must offer buyers more for their money.

Government Policy Changes

Let me conclude these remarks by asking whether the time is not approaching when the government needs to consider reforming the tax system to encourage investment. Although Mr. Truman, quite unwisely in my judgment, asked for more taxes, he did not urge reforms in taxes. The stiffer the rates of taxation, the more important become reforms of taxes to avoid discouraging enterprise.

During 1947 and 1948, a moderately satisfactory rate of investment was sustained by corporations by plowing back substantial amounts of earnings. Industry had only moderate success, however, in raising funds from the outside market.

It is true that in 1948 private security issues (exclusive of refunding) increased from $4.4 billion in 1947 to $5.9 billion and that corporations relied to substantially less extent upon banks for outside funds, new bank loans dropping from $2.9 billion to $800 million. Less than one-fifth of the new investment funds used by corporations in 1947 (this excludes depreciation allowances) was raised by new security issues.

In 1948 the proportion was little more than one-fourth. Only about 22 per cent of all private domestic security issues in the last three years have been sold to individuals and individuals have put only about one-tenth of all personal savings into corporate securities.

It is plain that American corporations are not able to rely upon direct investments by individuals to meet a very large part of their capital needs, and that individuals as a whole do not appear to be very much interested in becoming owners of American corporations. This is a serious situation which will become acute when corporations become more dependent upon outside funds for capital. The present condition is partly the fault of corporate managements which by and large have made little study of the problem of offering individuals the kind of security which persons of moderate means can afford to own.

It is partly the fault of government policies. The S.E.C. regulations make it expensive for corporations to offer a top issue which might be sold month after month and year after year to persons in the cities and regions where the corporation has plants or customers. Furthermore, double taxation of distributed corporate profits and high progressive rates of taxation means that even large corporate profits offer little return by the time they reach the investor.

Sooner or later government policies will have to be changed from discouraging individuals from becoming owners of corporations to encouraging them to become owners. I believe that the time when the government must reverse its policy is close at hand.

A beginning should be made in this year by eliminating the double taxation of distributed corporate profits on all non-refunding equity securities issued after the first of January, 1950. This would not reduce the yield of present taxes. It would, however, substantially stimulate individuals of all levels of income to invest in new equity issues. Thus it would help maintain a high and growing level of employment and it would assist industry to make the increases in its productive capacity. In short, it would help make the American economy the rapidly expanding one which is so badly needed to enable it to supply the rapidly growing quantities of goods required by the country's international obligations and its domestic policies.

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Russia and the Communist Challenge

(*Continued from Page* 8)

What do you find in Russia to criticize?

The first entry on the debit side of the ledger, in my opinion, may be broadly stated as a lack of freedoms and a lack of rights. Most fundamental is the limitation of personal freedom as evidenced in the lack of habeas corpus proceedings and trial by jury, the presence of political police, arrest on suspicion, presumption of guilt, third degree methods, the existence of political concentration camps, slave labor and the system of hostages within a family, one for another. Further limitations refer to freedom of speech, freedom of the press, freedom of radio, and freedom of working conditions. Absence of the right to strike and repression of the right to travel abroad are serious curtailments of liberty. These many restrictions are well known, quite evident, and hardly susceptible of denial. To an American who cherishes individual liberty, they do and should constitute a grave indictment of the Russian system.

Little Political Democracy

A second serious shortcoming in Russia is the deficiency of political democracy. It is true that democracy is proclaimed and implemented by a constitution and a secret ballot. It may be true that Russia is inept in political organization and is not ripe for democracy. But the finite fact remains that the Politbureau, which is purely a Communist Party entity, is the real governing body of the country. There is no adequate separation of legislative, executive and judicial functions, there is an absence of checks and balances such as serve to safeguard our freedom, there is a single party system, the press and radio are government-controlled, and there are decided limitations on political opposition. In effect, the power resides in the state. Limited license is accorded to the citizen. Government is not "by consent of the governed," as we know it. No, the Soviet Union has not displayed the ability to develop political democracy. It has not demonstrated that statism and democracy are compatible; in fact, the evidence is preponderant that they are incompatible.

Where the means of livelihood centers in the state, the people are helpless to voice a word of dissent. The state is the one employer; all citizens are employees. To be blacklisted by one trust means blacklisting by all trusts, denial of ration cards, beggardom and slow death. In Russia, you either conform, or else.

A third shortcoming of the Russian picture lies in the bureaucracy, inefficiency and red tape which hobble accomplishment.

Americans who have become intimately associated with the functioning of Soviet industry have been amazed at the terrific burden of overhead, which attaches to Russian political administration. In comparison, the profits of American industry, averaging about six cents per dollar of sales, are indeed picayune.

An American workingman can buy a new suit and a pair of shoes out of one week's wages. His Russian counterpart must work months to purchase far inferior equivalents. The answer, in part, is "bureaucracy."

Not the least of the deficiencies of the Russian system is the communist's fundamentally atheistic basis for behavior. Lenin said, and I quote, "For us morality is a fraud. It is subordinated to the interests of the proletarian class struggle."

While communists do begrudgingly tolerate religion, they do not venerate its precepts. They do not hold a concept of right as an abstract standard to be adhered to regardless of consequence. They do not promulgate the Golden Rule or the Ten Commandments as a guide to action. Their criterion of right and wrong is expediency, expediency with reference to the interests or objectives of the state, the Soviet state. As a part of this policy, they subscribe to the postulate that the ends justify the means; acts which transgress our principles may be condoned if they are deemed, by those in power, to contribute to the general welfare, which, peculiarly, always happens to be synonymous with Party welfare.

To my mind, good is not a matter of convenience or expediency or opportunism. I cannot conceive that a system of organization of human relationships is fundamentally right if that system does not have its roots in a moral code based on the tenets of religion.

In view of your years of contact with communists and your observation of life in Russia, what would be your appraisal of communism?

From each according to his ability, to each according to his needs. It is a noble thesis, a glamorous Utopian dream. To real or fancied victims of discrimination, the idea has obvious appeal. It is a powerful base for emotional propaganda.

When we American engineers entered Russia, we were imbued with the feeling that we were to make a real contribution to the betterment of a backward people and the building of a nation. Our role was definitely constructive. We held that the communist experiment should be given every opportunity and assistance to succeed and to prove its merit, just as we would surround any laboratory experiment impartially with conditions directed to rendering the results conclusive. We were not averse to discovering in communism, the solution to our own social strife.

But, alas, we learned that its beauty is only skin deep, that there is a wide gap between pretense and practice, that communism does not promote camaraderie and mutuality. Quite to the contrary, because of the concentration of authority and power, it is steeped in fear, suspicion and despotism. Defined by its own proponents as a class struggle, it is, in truth, a dogma of hate.

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Russia and the Communist Challenge

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Karl Marx, said, and I quote, "Christian brotherly love has been tried for 18 centuries and found wanting. I will found my movement on a more dynamic force—class antagonism." And that is the picture.

As a practical modus operandi, communism is a dud. The communists themselves admit that they had to abandon communism. They have adopted piecework, incentive systems and other practices which are innate to capitalism. They explain that these are temporary concessions necessitated by the fact that, "people are not yet ready for communism." They vindicate their measures of repression by the same excuse. In effect, this constitutes an admission that communism doesn't fit human nature. Only through exceptions and compulsions can a semblance of function be maintained.

The Real Test

If people were perfect, communism would be a practical system. But, if people were perfect, capitalism also would be above criticism. The real test of a system is its ability to withstand and to accommodate the vagaries of human nature. It has been demonstrated in Russia that Marxism is completely impractical and that statism can operate only with creaks and groans. It has been demonstrated in America that competitive free enterprise can function relatively well in spite of human deficiencies. In America, where the real pay of the worker is triple that of semi-socialist Britain and ten times that of communist Russia; in America, where one-sixteenth of the world's population eats forty-five per cent of the world's meat, produces half the world's goods, owns eighty-five per cent of the world's automobiles and ninety-two per cent of the world's bath tubs.

Fear is the dominant force in Russia. The people fear the unbridled despotism of the government. The communists, a very small but ruling minority, live in constant apprehension of an uprising. They dare not relax their vigilance nor the severity of their disciplines.

The history of communism in Russia is not a story of the emancipation of a nation, rather it is a story of the enslavement of a nation. Communism is a wolf in sheep's clothing. It is a gargantuan gold brick.

We should indeed be glad that, in nazi Germany, in fascist Italy and in communist Russia, the true attributes of statism, in its several forms, have been laid bare for the whole world to behold.

Do you look upon communism and socialism as forms of liberalism?

I do not. Communists and socialists, with self-righteous air, generally appropriate to themselves the euphonious appellation of liberals. Their ideologies, exalting the state at the expense of the individual, are, in fact, ultra reactionary. They are oriented to dictatorship and to slavery. Communism and socialism are the antithesis of liberalism.

Doesn't socialism promote better feeling and more altruism among men?

A socialist has been aptly defined as a man who thinks that the search for prosperity ends in the other fellow's pockets. There are those who seem to think that the cloak of government employ will convert humans into angels. Granted that there are some high minded and conscientious men in government, the same is true, in no less degree, in private life. I have seen no convincing evidence that the average man is ennobled by a government job. The evidence seems rather to the contrary.

The average Russian, after three decades of socialization, is still interested primarily in saving his own hide, in providing for his own family and in improving his own status, just as are you and I. Statism has not exalted Russian morals. To the contrary, one of the world's tragedies rests in the fact that the long established, inherently good moral fibre of the Russian people is starting to crumble. The new generation is morally inferior to the old.

Do you put socialism in a category with communism?

I do. Prime tenets of socialism are: government ownership of the means and instruments of production and political control of business administration. These are also the fundamentals of communism. Article I of the Constitution of the Soviet Union defines that country as a socialist state; Article IV of that constitution subscribes to a "socialist system of economy." I have previously pointed out that Russia itself is not practicing true communism. It is practicing statism, entrenched socialism.

Socialism and absolutism are naturally complementary to each other. They go hand in hand. A government-planned economy is meaningless without government authority and government power to effect execution. Administration by the state begets domination by the state. Domination by the state inevitably leads to coercion and the sacrifice of individual liberty.

You cannot nationalize industry without, in consequence, nationalizing men.

Forms of Collectivism

Socialism, statism, communism, all forms of collectivism, differing merely in degree. To distinguish between socialism and communism is like drawing a line between three shots of vodka and four shots of vodka. One begets the other. Socialism is embryo communism, nothing less.

You seem to be concerned about socialism?

I am concerned because communism is a two-edged sword. While it threatens from without, it bores from within. I doubt that communism can yet march brazenly into America's front door but every day it is worming its insidious way via our back door, attaching itself stealthily like a barnacle upon a befuddled public, through the agency of creeping socialization.

Statism is a chain reaction. Like an avalanche or a forest fire, it may have a small beginning, but it grows cumulatively in scope and intensity, until it overwhelms. Like cancer, its cure lies only in its early recognition and prevention.

Socialism Entrenches

How do you think socialism could become entrenched in America?

It is but human nature that, when a political regime once attains a strangle hold on the economic life of its electorate, that regime will use its strategic position to perpetuate itself in office. We should not overlook the significance of the fact that since the socialist Labor government attained power in Britain, it has lost just one out of 48 by-elections. Our own federal government casts a considerable shadow in the same direction.

Do you consider communism and socialism to be consistent with our American traditions?

Communism and socialism are not in keeping with American precepts. Take

heed of these pronouncements of our forebears, men of wisdom and stature, who established and who preserved our nation:

George Washington said, "The government is not invested with more powers than are indispensably necessary to perform the functions of good government."

Alexander Hamilton said, "Power over a man's subsistence amounts to power over his will."

Thomas Jefferson said, "Agriculture, manufacturers, commerce, and navigation, the four pillars of our prosperity, are most thriving when left free to individual enterprise."

Abraham Lincoln said, "The question is, whether any government strong enough to support itself, is not too strong for the liberties of the people."

Woodrow Wilson said, "The history of liberty is a record of the limitation, rather than the expansion of government powers."

To this hall of fame I would add a small voice, saying, "In the game of life, it is the function of government to be the umpire. When government usurps the role of the team, liberty is lost."

Communism professes to offer better living standards for the masses, attained through more equitable allocation of the fruits of production. Based upon your observations in Russia, do you consider this claim valid?

In Russia, the spread between the richest and the poorest is about 50 to 1. This is less than the U.S.A. However, this is a leveling-down process. Their poor are in worse straits than ours; their most affuent do not approach the standards to which you and I are accustomed.

Need Production

Russia has learned that deficiencies, no matter how equitably they may be apportioned, do not afford abundance. Production is the primary need. Efficient production can tolerate a little maldistribution. The communist ideology places its emphasis on distribution, the minor factor, at the expense of production, the major factor.

The attainment of prosperity and abundance is predominantly a problem in production. It is a problem in addition and multiplication, not a problem in subtraction and division.

Do you think that the Russian communists are endeavoring to undermine the capitalistic economy of the United States?

Undoubtedly such is the case. The United States is the principal remaining bulwark of individual liberty and freedom. The Russian communists know that they cannot attain world domination, peacefully or otherwise, so long as America prospers. Therefore, they hope and strive for our economic collapse.

To this end, the Russian communists have done what they could to extend our pedestal of inflation, to increase the hazards of our position. They have used our labor unions as a tool to create the vicious circle of higher costs and higher prices. They have subtly encouraged our federal government's policy of prodigal spending and deficit financing; they have necessitated our expenditure of vast sums for military preparedness and for the Berlin air lift.

If recession should set in, they would redouble their efforts to stir up emotionalism and class antagonism, to divide our house against itself and to obstruct orderly adjustment, and they would not be altogether unlikely to succeed.

We live in an epoch of confusion. Tremendous technological advances of recent decades intensify our human interrelationships. Life grows more complex. Our higher material standards demand higher mental standards and higher moral standards. Do we recognize this fact and strive directly and dynamically to measure up to the need or are we groping and toying with palliatives?

In Russia, subjected for centuries to gross injustices, the reaction has been most violent; the pendulum has far overswung a median position of moderation. In Britain, slow to modernize, afflicted with class rigidity, looking to dominion and cartelization to sustain its exports, the reaction has been only a little less severe.

America, too, is caught in the tide, affected by the contagion. America, too, has some inequities. But, if we are discerning and wise, we will minimize the overswing of the pendulum. We will diagnose our ills as abuses, faults in ourselves, rather than faults inherent in our system. We will recognize that our competitive enterprise is the best that a world has evolved from centuries of experience, we will realize that, basically, it has been our demonstration of the possibilities of democracy and freedom that has aroused the rest of the world. If we retain a true perspective we will steer a course of moderation and will not attempt to cure the patient by severing his jugular vein.

How can we check the spread of communism?

That question permits of a brief answer.

Nature abhors a vacuum. If we reject the idea of Soviet world leadership, we must ourselves accept and qualify for that role. We have that choice and only that choice.

Should we endeavor to counter Russian propaganda?

Definitely yes. We, the world's greatest publicists and advertisers, must not, by default, permit the world to commit hara-kiri through misunderstanding and misinformation. We are right now at war, a war of principles, a war of ideas, a war of words. A war which must be won, not with destroyers and guns and tanks, but with deeds and goods and

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Russia and the Communist Challenge

(*Continued from Page* 19)

truths. If the world is to be set aright, the masses must learn the score; not a camouflaged score but the factual score. We are confronted with the biggest selling job in our history. It is incumbent upon the engineering profession, to participate actively in this educational effort.

Is it possible to deal with the communists?

In dealing with communists, one must ever realize that their sole criterion of action is expediency. They have no moral code, no inhibitions, no innate sense of good faith or honor. Any similarity between their statements and the truth in incidental. When communists deal with capitalists, no holds are barred.

The communist is distinctly a realist; he is contemptuous toward appeasement. He cannot comprehend a disinterested approach. He hastens to exploit humility, timidity and procrastination.

The realism of the communist must be countered by equal realism. The aggressiveness of the communist must be met with equal aggressiveness. The determination of the communist can only be defeated by superior determination.

Is War Likely?

Do you consider war with Russia likely?

Recent history confirms that democracies do not start wars. Americans have learned that the destruction of war merely poses greater problems. We will have war with Russia only if she starts it.

In my opinion, Russia will not deliberately embark upon military war with the United States at this time. The communists know and respect American power. Russia suffered heavily in the last war, from which she has recovered far less than you think. The Russian people are war weary. Propaganda notwithstanding, Russians, in general, admire America. War with the United States would be particularly unpopular. A defensive war against Hitler and the oppressing Germans was one thing. Russia is defensively impregnable. An offensive war against esteemed and benevolent America would be quite another thing. Offensively Russia is relatively impotent. The communists would incur both external and internal risks. They are too wary to do this unless there is almost a certainty of commensurate gain.

The communists are following Hitler's example. They noted how much he gained in the Ruhr, in Austria and in Czechoslovakia through sheer audacity. They are using the same tactics. Unlike Hitler, they do not have the industrial background necessary to meet urgent home needs to build up their productive plant and to carry on war. They do not now have the benefit of years of large scale preparation. Unlike Hitler, the Russians must and will stop short of military war. They are already committed to and engaged in the only kind of offensive war now possible to them. It is the kind at which they are most adept, and thus far successful.

Russia's Plan

Russia is not playing for immediate military war in the hour of our prosperity; rather, she seeks to acquire domination more subtly through revolution, in the hour of any eventual distress in America.

Russia's greatest strength lies, not in her military power, but in the army of misguided fifth columnists, radicals and pinks scattered throughout the world, who, wittingly or unwittingly are doing her bidding. God forgive them, they know not what they do.

In your opinion, how should our Government deal with Russia?

That is a 64 billion dollar question. I will do well if I can give you a $64 answer.

In my humble opinion, the principal requisite of our foreign policy is that we have a foreign policy. In no small measure, our present dilemma is of our own making. The containment of Russia should have been a factor in our strategy of World War II. Churchill knew this, but he was overruled. We erred in withholding our troops from Czechoslovakia and Berlin; we erred in our generous commitments at Teheran, Yalta and Potsdam. We erred in letting down Mikhailovitch in favor of Tito in Yugoslavia. We erred in coaxing Russia into the war with Japan. We erred in double-crossing China, presenting her best resources in Manchuria to the Soviets. We erred in splitting Germany and in trying vindictively to reduce her crowded population to an agricultural status. Our post-haste disarmament was ill-advised. Our relations with Russia have been most unfortunately naive and inept. Cringing to a scarecrow, we have kowtowed to the communist regime and have facilitated its oppression of the Russian people whom we should cultivate as friends. We delivered back into Stalin's hands, for persecution, thousands of Russians who had escaped into Central Europe. We sent to Russia postwar on lend-lease, millions of dollars in machine tools and industrial equipment with no strings attached. The Berlin blockade is the child of our oversight and vacillation. Through appeasement abroad and dilatory tactics at home, we have thus far encouraged, rather than checked, Russian aggression.

Our position behind the 8 ball today is, in large measure, the outgrowth of improvisations and covert commitments on the part of a fumbling few. We, the American people, as a whole, need a policy, a comprehensive, considered, coherent, consistent, continuing, constructive, compelling, common policy.

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CONTRACTORS

Discuss Construction Problems Of Finance, Research, Housing, Electrification, Labor, Defense

The Associated General Contractors of America, Inc. held their Thirtieth Anniversary Convention in New York, February 28 to March 3.

D. W. Winkelman, president of the AGC, said in his opening address, "One of the paradoxes of our time is that we now feel it necessary to defend more vigorously than ever before, a way of life which has made this a great nation and the envy of the world.

"In our industry we are particularly conscious of this need, because we can see how essential construction is to the growth and development of our economy, and to progress for most phases of our civilized life," he continued.

"The volume of business activity created by construction is essential to our prosperity," according to Winkelman. "Because American prosperity is essential if we are to be able to sustain our program of aid to nations in distress and to nations which are not developed, it is not too much to consider an active construction industry an essential element in world recovery and development," he added.

Taking into account the tremendous construction needs today, he said, "As general contractors we have the responsibility not only to execute the actual construction of projects as rapidly and as economically as possible, but also to fight for our way of life which enables us to carry out most efficiently and effectively the work which improves the standard of living" both here and abroad.

Financial Considerations

Another of the major speakers was Guy C. Kiddoo, Vice President of the First National Bank of Chicago.

After reminding the construction men of their role in opening up new frontiers, providing access to resources, developing transportation and communication, providing plants and homes, Kiddoo went on to a discussion of the financial operations of the contractor.

He cautioned that the kind of work and the size of jobs sought must be reasonably related to financial resources, without too much diversification.

In considering the matter of preparing bids, he stated that "taking contracts too cheaply is the most important reason why contractors fail and is more likely to cause trouble than all of the others put together."

"Adequate provision must be made for equipment rental or write-off," he said. "This is especially important in these days when equipment costs so much. Rental rates or depreciation charges based on the cost of old equipment may not be adequate to provide funds for replacing equipment at present day prices."

Another factor influencing costs which the speaker discussed, was "the future trend of material prices and labor costs." He called the contracting business, "very largely a depression-proof business," and explained, "you have been swimming against the tide of increasing labor and material costs since the war and now the tide has turned and is running in your favor . . . I know of no way to measure the extent and duration of the current downward trend," he said, but added that he did not expect any reduction in hourly wage rates. He emphasized, "I can only urge that you seriously consider all the factors influencing the price level and be slow to bid on the assumption that costs will be much below those now existing, for an extended period of time."

"There is," Kiddoo recognized, "the possibility that the current downward business trend may accelerate enough to reduce new private construction below present estimates. However, if this occurs, it would probably be offset by a step-up in public works."

However, he cautioned that it would be dangerous to let competition influence a contractor to bid too low, bearing in mind that "the longer the time for performance and the more hazardous the work, the greater should be the margin, keeping in mind also the big cut that Uncle Sam takes out of every profit dollar."

"If you are the low bidder," he said, "may you be just barely so. If the job is one which will require credit and your bid is 10% or 15% low, let's hope your banker doesn't find a flock of butterflies in his stomach when you tell him the results of the bidding."

"Be completely honest and frank with your banker," he urged. "Give him the bad news as well as the good—and don't wait for him to pull it out of you. Discuss your probable needs with him at the opening of the season or in advance of bidding on any sizable job, and give him a chance to participate with you in the decision as to whether or not your financial resources and other qualifications justify your taking on the work. When you have him committed in advance, he is morally bound to see you through." He recommended getting the banker out to see the job, the men and equipment, because "he will have a more sympathetic and understanding view of your need for funds to equip a job and get it started."

Banker Merits Confidence

"Financing contractors is not a simple or easy credit field. The basis for credit includes many things that can't be shown on a financial statement," Kiddoo explained. "Your banker may assist you in getting together joint venture groups, or in obtaining outside financial backing if your own resources aren't quite large enough for the job you want to bid on. In short, take your banker into your confidence. The credit he provides and the counsel he will furnish is worth all it costs."

Speaking of the necessity for reduction of cost of construction, he said, "There is a tremendous need for housing but costs have currently put new homes beyond the reach of many who need them most. You should not simply accept high costs as inevitable and pass them on to owners and public authorities. You should be ever alert to devise and adopt means of reducing costs, because as you do so you broaden the market for your services."

Kiddoo called the decrease in productivity of labor in recent years "disturbing," and added that "the funda-

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Contractors Discuss Construction Problems

(*Continued from Page* 21)

mental causes of this trend and the unsound thinking upon which it is based present a challenge which should be met through every possible means of education and persuasion."

He continued, "If we could only implant firmly in the consciousness of everyone a firm belief in some simple fundamental truths, we might avoid some of the errors and troubles that seem to lie ahead. This education should start at the grass roots and pound home some simple principles such as these. You can't get something for nothing. We can enjoy only what we produce. A gain through force or pressure without a corresponding contribution to the national welfare, brings a loss to someone else. State guaranteed security means some loss of liberty and opportunity."

Design Problems

Douglas William Orr, president of the American Institute of Architects, told the contractors, "Construction is an old industry and has carried along throughout the years, methods which have little or nothing in common with our present-day age. It has many related but unintegrated elements, and associated with it are architects, engineers, designers, contractors, sub-contractors, manufacturers, suppliers of raw materials, speculators, financial institutions, and some forty different skilled trades organized into unions . . . Ideas and practices," he continued, "lack flexibility." Advances in the sciences have brought extensive knowledge which must be used to the best advantage.

"In the '70's that brilliant group in our own Midwest evolved new forms and brought about the use of the skeleton frame, used so generally today," he continued. "They were men of imagination and ingenuity—experimentation if you will—but they brought forth the kind of results so needed today. Specifically, like the turtle, if we are to get anywhere we must stick our necks out."

Concerning this experimentation, he said, "We require much research in the development of new techniques, new thought in developing new forms. Forms as now developed by architects are designed to lower costs but because they are unfamiliar to the general contractor, or to suppliers and field labor, the result is very often the exact opposite. Generally speaking, the public has been quicker to accept advances in design than has been the builder or the mortgage banker. This is not the road to progress."

One method suggested by Orr, would be "joint conferences wherein the architects, the contractors, the suppliers, the manufacturers and labor could sit down together and discuss the problems, in an effort to uncover ways and means of building better structures for better living, at reduced cost. Together we should be able to evolve beneficial integration of research."

Considering the responsibility to the general public, he said, "Contractors, manufacturers, and all elements of the industry must become design conscious; the design professions must become structure conscious; each had an obligation to the other. But included must be a consciousness of the social and economic aspects of public need.

Rural Electrification

Among other speakers was J. K. O'Shaughnessy, Chief, Engineering Division, Rural Electrification Administration, who discussed the construction program financed by loans from the REA.

According to O'Shaughnessy, the government has made available more than $1,875,400,000 to REA for loan purposes in the electrification of rural America, of which $233,000,000 remains to be loaned.

Records show that approximately 750,000 miles of distribution lines have been constructed and energized by REA borrowers and that these lines are now serving more than 2-1/2 million consumers.

Labor Viewpoint

Representing the labor viewpoint was Richard J. Gray, president, Building and Construction Trades Department. "While our most immediate interest is in the kind of law Congress will write to replace the Taft-Hartley act, and in a revision of our plan for the handling of jurisdictional disputes, there are two other items of major interest to which I want to allude briefly," Mr. Gray stated. "Both have to do with our great desire to see the industry stabilized at its present high level of production and employment." He referred to his hope that construction levels will be even higher than the predicted levels equal to 1948, and to a pending Senate bill which would provide for "slum clearance, urban development and low-rent public housing."

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"The bill as it goes to the floor of the Senate," Gray stated, "provides for the construction of 810,000 housing units to be built over the next six years, at the rate of 135,000 per year (which may be increased by the President to 250,000 or decreased to 50,000 a year, as conditions warrant)."

The Housing Picture

Raymond M. Foley, Housing and Home Finance Administrator, U. S. Government, speaking on "The Housing Challenge to the Construction Industry," pointed out that the areas of greatest need "lie in both sale and rental housing within the financial reach of families just below the top of the middle-income range downward to the bottom of the income scale." According to Foley, "all the signs of the time point to one essential problem: the cost of housing is too high . . . it is reflected in prices and rentals too high for the mass of the potential market."

Foley estimated that 930,000 dwelling units were produced in 1948, with goals for 1949 set at about 875,000. "In our opinion," said the government official, "the industry has the capacity to produce more than a million units this year —and the market to absorb them if they are in the proper price ranges. We believe there are materials enough in sight and in prospect; we believe the labor supply can encompass that goal. We believe, too, that there is enough resourcefulness in the industry to meet the cost problem—if it will function cooperatively as a total industry."

Mentioning the FHA's Economy Housing Program, he explained that "it is not an effort to bring into existence a lot of little houses. It is rather an attempt to discover and put into effect as many economies, small and large, as possible —and to reflect them in the price or rental of houses over the whole range. True, it is also an effort to focus the attention of builders on the mass market," he said, and "to furnish incentive for them to build good houses in the area of greatest need rather than at the top of the market. What we seek is more house for the money—not less house for less money, if the latter means merely cheapening the house to lower the price."

Defense Construction

Rear Adm. J. J. Manning, Chief, Bureau of Yards and Docks, Department of the Navy, praised the construction industry for its contribution to the defense program during the war, but emphasized that we must not expect so long a "grace period" in a future emergency, but must have our defense timed to a new concept of speed.

He named three basic programs, all related directly to the time element.

"First, the need for adequate minimum shore facilities today; second, the need for intensive research for new materials, new equipment and improved construction methods; and third, the need for streamlining contractual relationships."

Dr. Sumner H. Slichter, Lamont University Professor, Harvard University, spoke on "The Economic Outlook in Relation to Construction." That address is reprinted on Page 13 of this issue.

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A. I. E. E. Awards Lamme Medal to RCA Engineer

The 1948 Lamme Medal of the American Institute of Electrical Engineers has been awarded to Dr. V. K. Zworykin, vice-president and technical consultant, RCA Laboratories Division, Radio Corporation of America, Princeton, N. J., "For his outstanding contribution to the concept and design of electronic apparatus basic to modern television."

The medal will be presented to Dr. Zworykin at the Summer General Meeting of the Institute to be held in Swampscott, Mass., June 20-24, 1949.

The Lamme Medal was established through a bequest of Benjamin Garver Lamme, who was chief engineer of the Westinghouse Electric and Manufacturing Company from 1903 to his death in 1924. Beginning in 1928, the medal has been awarded annually for high achievements in the development of electric apparatus or machinery.

Zworykin was Associate Research Director with RCA Laboratories from 1942 to 1945, and Director of Electronic Research, 1946. He has been Vice President and Technical Consultant since 1947.

Among other awards which he has received are the Morris Liebmann Memorial Prize for contributions to the development of television, 1934; Rumford Medal awarded by the American Academy of Arts and Sciences, 1941; Howard N. Potts medal from the Franklin Institute for contributions to commercial television, 1947; and Poor Richard Club Gold Medal of Achievement, 1949, as well as various foreign prizes.

He is the co-author of a number of books including, *Television*, published in 1940, *Electron Optics and the Electron Microscope*, 1946, and *Photoelectricity and Its Applications*, 1948.

He is a fellow of the Institute of Radio Engineers, American Institute of Electrical Engineers, American Physics Society, American Association for the Advancement of Science, Franklin Institute, Electron Microscope Society of America, Sigma Xi, American Philosophical Society.

In addition, he is a member of the National Academy of Sciences of the U.S.A., American Academy of Arts and Sciences, and an officer of the French Academy of Science.

Russia and the Communist Challenge

(*Continued from Page* 20)

Do you believe in the Marshall Plan?

In its broad principles, yes. We should help consistently, but advisedly, temperately and within our means, to build in Europe and elsewhere, a better world, based to a minimum feasible degree on authoritarian socialism and to a maximum degree on democratic free enterprise. We should proceed vigorously toward that end in America. Such a world can outstrip the communists and leave them far astern. The Soviet regime will then crumble through its own relative inadequacy.

Industrial Expansion Vital

To me our course seems that clear, that comprehensive and that challenging. I do not disparage the United Nations nor the project of a Federal World Government but I submit that only through extended application of technology and through expansion and dispersion of modern instruments of production, can the growing populations of the world attain a fair degree of well being and contentment — and these are practical prerequisites to peace.

I am proud that the company with which I am associated is presently identified with steel plant construction projects on five continents.

Referring to our stalemated diplomatic position, does time favor the Russians or the United States?

The cards are stacked heavily in our favor. We have much greater industrial resources. In science and technology we are far in the lead. Our population is vastly more talented and our population is free. Time *can* work in our favor. America has the potential, *if she wills to use it.*

What can we ordinary Americans do to promote a favorable outcome?

If America would be a potent factor in world rehabilitation, it is a first essential that we present a united front, that we set our own house in order, that we banish *our* discords and *our* dissensions. We must dedicate ourselves to the supreme task confronting us. We must cease aping communism; we must concentrate on perfecting capitalism. We cannot prosper half slave, half free, half socialist, half capitalist. We cannot sell the world on our system of free enterprise if we ourselves give it only perfunctory allegiance.

In World War II, the whole nation cooperated, regardless, and we won. It is even more imperative now that the whole nation cooperate, constructively, to the end that we may win the peace.

What is the communist challenge, mentioned in the title of this talk? What is the significance of these words?

Statism, or communism, if you wish to call it that, is in the nature of a challenge. It is a challenge as to the best manner in which to promote the welfare and happiness of mankind. A contest is staged between the principles and methods of totalitarianism, regimentation, compulsion and atheism, on the one hand, and individualism, democracy, volition and Christianity on the other hand.

We profess to believe in competition and to regard it as a stimulus to progress. Consistent with that view, we should not reject competition in this case. Perhaps it is just the medicine we need.

Let us accept this challenge. Let us welcome a contest in which America is the champion of free-enterprise and Russia is the representative of statism. Let the rest of the world judge. Let us abide by the result. But, let us fully realize the import of the contest. Let us face the fact that we are the custodians of our civilization and that we, and our way of life are being put to the test.

In this crucial competition with communism, it behooves us particularly to examine our own weaknesses, for the outcome of this contest will primarily depend, not on what Russia does, but on what we do. If the communists win this contest, it will be not because of their excellence, but because of our futility, our dissension, our preoccupation. It will be because of our indecision, our isolationism, our political jockeying, our failure to set the outstanding example. It will result from our failure to supply the bold, enlightened leadership which the whole world craves, leadership steadfastly directed to world development, material and moral, for the common weal.

The human attribute most damaging to our free enterprise system, the Achilles heel which renders us most vulnerable to propagandistic attack, the dragging brake on our wheel of progress, is the basic trait of selfishness. It is the selfishness on the part of capital when it demands more than a fair return or seeks undue profit by manipulation; selfishness on the part of management when it adopts shady practices, or helps itself too liberally at the trough. It is the selfishness on the part of labor when it exerts every effort to get but is chary about commensurate giving; selfishness on the part of Government when it diverts public resources to political largesse or subordinates the public interest to political advantage.

We need more concentration on productive effort. We need broader and more tolerant vision. We need mutual respect and consideration in lieu of class hatreds. We need constructive cooperation in lieu of destructive defamation; we need less factionalism, more Americanism.

Business management must become more generally social minded. It must

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accept the theorem that the abiding prosperity of any, hinges on the diffused prosperity of the many. It we would avoid methods of compulsion, we must administer with integrity and magnanimity, the methods of volition. If enterprise uniformly gave its workers their due, before rather than after it is demanded, the world aspect would be entirely transformed. Free enterprise has no enemy more harmful than he who violates his position of authority and trust as a responsible representative of that system. The vindictive excesses of the New Deal, which dimmed the discordant decade of the thirties, were but the natural retribution for the avarice and the audacity which doomed the deluded decade of the twenties.

Organized labor must become more cooperative, more democratic, less swayed by the lust for power. Labor leaders must recognize that concentrated power, be it in the realm of management, or in the realm of labor, must bow gracefully to regulation in the public interest. They must accede to the principle of "freedom from coercion." They must acknowledge that boondoggling, featherbedding, and obstructing technological progress are despicable practices, cheating only the public. They must concede that wealth can be distributed only when wealth is created, and wealth cannot be created by methods of restriction and sabotage. They, too, must realize that rights and privileges entail corollary restraints and obligations.

We need more profound respect for the basic, homely virtues; honesty, industry, thrift. We need moral and spiritual resurgence and greater recognition of religion as a source of inspiration to upright, noble living.

We think that Russia's proper course is to demonstrate in Russia the merits of communism. By the same token we should undertake to demonstrate in America, the true worth of capitalism.

If we have faith in the system of free enterprise and desire to preserve it, our long term answer to the communist challenge should be, so to govern *our* behavior, so to amend *our* capitalism and so to strengthen *our* democratic institutions that the restive tide of communism becomes but a ripple against a rock-ribbed coast of universal fair dealing.

Can you tell us what you consider to be the greatest lesson of your Russian experience?

In closing, I submit for your consideration one conviction which is prompted partly by Russian exposures and experiences and the deliberation which they have stimulated.

The troubles and shortcomings of the world evolve from human errors. No single segment or stratum of society is immune from errors. Mistakes and misdeeds cannot be easily erased or annulled; neither by panaceas, ideologies, deals or isms. Such schemes partake of the nature of short-cuts. Like patent medicines, they may seem to be soothing, but they are superficial. They transgress fundamentals. They seek to contrive through formula what can only be achieved through effort. To encourage dependence upon them is to mislead by arousing false hopes. Political artifice is no substitute for morality.

Too long have we followed "something for nothing" leaders. Too long have we heeded mental magicians offering soft and easy solutions. It is time that we rouse ourselves to realize that the only way to a better world is the hard way. The answer does not lie in letting George do it, or in letting Government do it. You and I must do it.

People constitute a nation. The composite of the deeds of the people determines the destiny of the nation. A civilization can progress only by the slow and laborious process of upbuilding the humanity which comprises that civilization. And the betterment of humanity can result only from the integrated betterment of individuals.

Therefore, that type of government and that system of organization of enterprise are best which contribute most effectively to the advancement of mankind through the development of manhood.

A collective economy inevitably weakens citizenship. It denies the exercise of individual judgment. Servility replaces initiative. Independence resigns to blind obedience. Self-sufficiency surrenders to dependence. The disciplines in such a society are imposed from without — regimentation — the blight of men's souls.

Free enterprise, on the contrary, places a premium on individual effort. It stimulates resourcefulness, ingenuity, enterprise, initiative. It opens the door to opportunity. It places no limits on accomplishment. It is not based on compulsion and coercion. It is based on self discipline, which is the only truly effective discipline. It is the honor system—applied to life.

Our success and our progress in the material world of science and mechanics has not been imposed from above. No group of supermen have supplied all the answers. Rather, our advance has resulted from innumerable small contributions made by countless individuals.

In a similar manner, we must progress in the world of human relations. Our composite performance is but the integration of a myriad of individual decisions and acts. The calibre of our citizenry is the criterion of our capacity. We can preserve our liberties, achieve lasting peace and promote general happiness only if we as a nation attain high standards of honesty, integrity, tolerance and justice, meriting and earning such rewards. And we can attain these standards as a nation only if we cherish them as individuals. We cannot evade our own personal moral imperatives. For we are the atoms which define the kind of alloy of which our nation is made.

The abundant life can never be achieved through the pursuit of ideologies or theories. It cannot be forced by laws. It is a goal which must be approached along the highway of accomplishment. The picture must be painted with three fundamental colors: toil, genius, character. Only as we foster and venerate these, may we look with hope toward the future.

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WSE Applications

In accordance with the By-laws of the Western Society of Engineers, the following names of applicants are being submitted to the Admissions committee for examination as to their qualifications for admission to membership into the Society in the various grades, i.e., Student, Junior, Member, Associate, etc. All applicants must meet the highest standards of character and professionalism in order to qualify for admission, and each member of the Society should be alert to his responsibility to assist the Admissions committee in establishing that these standards are met. Any member of the Society, therefore, who has information relative to the qualifications or fitness of any of the applicants listed below, should inform the Secretary's office, 84 E. Randolph St., RA ndolph 6—1736.

217-80 Bernard E. Carlson, 6205 Dorchester Ave., attending Illinois Institute of Technology.

218-80 John J. Corrigan, 1440 S. 10th Ave., Maywood, Ill., attending Illinois Institute of Technology.

219-80 Ellis M. Landsbaum, 5638 N. St. Louis Ave., attending Illinois Institute of Technology.

220-80 Charles W. Ricker, Jr., Chief Specifications Engineer, Chicago Transit Authority, 79 W. Monroe St.

221-80 Richard P. Sunderland, Partner, General Meters & Controls Co., 205 W. Wacker Dr.

222-80 Leonard H. Caryl, Design Drafting, Sargent & Lundy, 220 S. State St.

223-80 A. A. Belda, Owner, Alliance Engineering Co., 82 W. Washington St.

224-80 Elmer V. Drieschner, Supervising Engineer, Massachusetts Bonding & Insurance Co. (Chicago Branch Office), 175 W. Jackson Blvd.

225-80 Thomas R. Sherman, Draftsman-Checker, Vern E. Alden Co., 120 S. LaSalle St.

226-80 Paul F. Griffenhagen (Rein.), Structural Engineer, 333 N. Michigan Ave.

227-80 Ira E. Graham, 6415 S. California Ave., attending Illinois Institute of Technology.

228-80 Albert Baker, 4070 N. Kenmore Ave., attending Illinois Institute of Technology.

229-80 Timothy J. O'Leary, Jr., Engineer, Illinois Bell Telephone Co., 208 W. Washington St.

230-80 Harold J. Schorlemer, Engineer, Illinois Bell Telephone Co., 208 W. Washington St.

231-80 George Kachavos, 5418 W. Congress St., attending Illinois Institute of Technology.

232-80 Christopher C. Lewis, Draftsman & Junior Engineer, H. G. Vogel Co., 4554 Broadway.

233-80 David M. Smith, 6900 Crandon Ave., attending Illinois Institute of Technology.

234-80 Earl M. Hanson, Estimates & Schedules Engr., Illinois Bell Telephone Co., 208 W. Washington St.

235-80 Richard Kinner, 1106 Clarence Ave., Oak Park, Ill., attending Illinois Institute of Technology.

236-80 William T. Larner (Rein.), Equipment Engineer, Illinois Bell Telephone Co., 208 W. Washington St.

237-80 M. R. McInerny, Project Manager, Kenny-McHugh Co., P.O. Box #72, Cicero, Ill.

238-80 Harry L. Newman, 5308 Ellis Ave., attending Illinois Institute of Technology.

239-80 Alfred R. Sadewic, 5643 S. Laflin St., attending Illinois Institute of Technology.

240-80 Clifford Kornegger, Switch-Engineer, Illinois Bell Telephone Co., 208 W. Washington St.

241-80 Edwin J. McCormick, Checker, Freyn Engineering Co., 109 N. Wabash Ave.

242-80 Earl H. Pratscher, Structural Designer, Freyn Engineering Co., 109 N. Wabash Ave.

243-80 Kenneth J. Howard (Trsf.), College Employment Supervisor, Illinois Bell Telephone Co., 212 W. Washington St.

244-80 Wayne A. Kiester, Jr. Subway Civil Engineer, Department of Subways & Superhighways, 20 N. Wacker Dr.

245-80 Frank J. Misek, Engineering Assistant, Chicago Transit Authority, 79 W. Monroe St.

246-80 Fred P. Page, Jr., 3313 Kenilworth Ave., Berwyn, Ill., attending Illinois Institute of Technology.

247-80 John J. Scopelite, 9323 S. Ridgeland Ave., attending Illinois Institute of Technology.

248-80 Jack F. Anschuetz, Manager-Press Division, Stanco Welder & Machinery Co., 9 S. Clinton St.

249-80 Paul Casterline, Engineer-General Staff Engrg. Dept., Illinois Bell Telephone Co., 212 W. Washington St.

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256-80 John P. Sebastian, Assistant Engineer, Fireman's Fund Insurance Co., 175 W. Jackson Blvd.

257-80 Albert H. Streicher, Teletype Corporation, 1400 W. Wrightwood Ave.

258-80 Randall W. Johnson, 4909 Pensacola Ave., attending Illinois Institute of Technology.

259-80 Nolan C. Ahlborn, Draftsman, Illinois Bell Telephone Co., 725 Chicago St., Hammond, Ind.

260-80 Sol L. Goldstein, 3240 W. 19th St., attending Illinois Institute of Technology.

261-80 Jerome H. Keilman, Student Engineer, Illinois Bell Telephone Co., 725 Chicago Ave., Hammond, Ind.

262-80 Rex K. Million, Student Plant Engineer, Illinois Bell Telephone Co., 215 W. Randolph St.

263-80 Gilbert H. Mueller, Student Plant Engineer, Illinois Bell Telephone Co., 725 Chicago St., Hammond, Ind.

264-80 Harry F. Zalewski, Assistant Subway Engineer, Department of Subways & Superhighways, 20 N. Wacker Dr.

265-80 William M. Truska, Jr., 2630 Blackhawk Rd., Wilmette, Ill.

266-80 Wm. V. Friedlaender (Trsf.), Research Engineer-Section Leader, Universal Atlas Cement Co., Buffington, Ind.

267-80 John W. Cappeck, Engineer & Estimator, Post Electric Co., 327 S. LaSalle St.

268-80 Francis J. Maney, 45 Irving Ave., Hillside, P. O. Melrose Park, Ill., attending Illinois Institute of Technology.

269-80 Leonard Kahan, 912 Carmen Ave., attending Illinois Institute of Technology.

270-80 Jerome J. Kiessling, 2528 N. Central Park Ave., attending Illinois Institute of Technology.

271-80 Peter Kocsis, Jr., 1333 Ardmore Ave., attending Illinois Institute of Technology.

272-80 Jerome C. Levey, 4338 N. Kimball Ave., attending Illinois Institute of Technology.

273-80 William E. Peffer, Engineer, Illinois Bell Telephone Co., 208 W. Washington St.

274-80 James Bagley, Senior Draftsman, Chicago Park District, 425 E. 14th Blvd.

275-80 Leonard A. Britzke, Electrical Engineer, American Can Co., 104 S. Michigan Ave.

276-80 Carl C. Cruikshank (Rein.), Plans & Estimates Engineer, Illinois Bell Telephone Co., 212 W. Washington St.

277-80 Vincent A. Haughey, 7939 Dobson Ave., attending Illinois Institute of Technology.

278-80 Fred W. Korbus, 4956 N. Christiana Ave., attending Illinois Institute of Technology.

279-80 James H. Briggs, 9608 S. Trumbull Ave., attending Illinois Institute of Technology.

280-80 Charles R. Juhasz, 5550 N. Clark St., attending Illinois Institute of Technology.

281-80 Joseph Simmons, 5406 Michigan Ave., attending Illinois Institute of Technology.

282-80 Peter J. Baier, Jr., 8051 S. Ada St., attending Illinois Institute of Technology.

283-80 Robert M. Guthrie, Sales Engr., Powers Regulator Co., 3819 N. Ashland Ave.

284-80 A. J. Boynton, President, A. J. Boynton & Co., 109 N. Wabash Ave.

285-80 H. Evert Kincaid (Trsf.), Partner, Kincaid and Hutchinson, 105 W. Madison St.

286-80 Robert G. Orthwein, Electrical Engineer, A. J. Boynton & Co., 109 N. Wabash Ave.

287-80 Robert M. Galloway, 9013 S. Racine Ave., attending Illinois Institute of Technology.

288-80 Durward D. Skinner, Salesman-Service Dept., Otis Elevator Co., 600 W. Jackson Blvd.

289-80 (Mrs.) Marie A. Thompson, Radio Script Writer, Chicago Typographical Union #16, 608 S. Dearborn St.

Give Awards to Four WSE Men

Four members of the Western Society of Engineers recently received citations from the University of Wisconsin "for outstanding accomplishments in engineering and industrial fields." The citations were awarded on March 15, which was appointed as Engineers' Day in connection with the observation of the Centennial Year of the university.

Those honored, all of whom are Wisconsin alumni, were: Leroy F. Harza, Louis R. Howson, Edwin F. Nelson, and H. L. Woolhiser.

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Please Mention MIDWEST ENGINEER When You Contact Our Advertisers

NEWS BRIEFS

The first direct air service between Chicago and Zurich, Switzerland's largest city, will be offered by Trans World Airline beginning Saturday, April 2.

TWA, the only airline offering direct, one-carrier service between Chicago and Europe, Africa and Asia, inaugurated international service here in May, 1946.

Virtually all of the federal-aid funds provided under the 1944 postwar Federal-Aid Act have been expended on new roads, Col. E. R. Needles, president of the American Road Builders' Association, stated today. Figures from the Public Roads Administration show that as of January 31, 1949, some 68,741.6 miles of new highways have been built since 1945, when construction started under the post-war program.

Hugh W. Cross, former lieutenant governor and chairman of the Illinois Highway and Traffic Problems Commission, has been named president of a newly formed Illinois Good Roads Association, which will undertake an active campaign to try to convince the people of the need for increased taxes for highways.

Eightieth Anniversary Issue

We have announced previously a special issue of MIDWEST ENGINEER to cover the reporting of our Eightieth Anniversary and formal dedication of the WSE headquarters on May 25.

Because of printing problems, it has been decided that the regular May issue of MIDWEST ENGINEER will be designated as a commemorative issue. In addition to its regular articles it will present the story of the dedication and the planning and effort which made it possible. A brief description of the Society's facilities, its 80-year career and plans for the future, and brief stories about some of our prominent past members will also be included.

Members and subscribers will wish to preserve this copy for future reference. Many business firms have already taken advantage of this opportunity to advertise their products or services, but additional space is still available.

John Lucian Savage

Tech Institute Dean Cites Necessity for Industrial Support

The trend of the American economy today is a potential danger to higher standards in education, according to Ovid W. Eshbach, dean of Northwestern University's Technological Institute.

Addressing a luncheon meeting of the University's Associates and Trustees in the Chicago Club, the dean asserted: "The American public and industry both have profited more than the rest of the world from past technical education. They should see to it that the physical facilities of our schools of science and engineering are completely renovated and brought up to date in the next generation.

"Like that of all education, the history of engineering training contains many examples of outstanding philanthropy. Our private schools have been dependent upon the generosity of individuals; our public schools, upon the conscience of the public."

Looking to the future of engineering education, Dean Eshbach said: "Neither science nor technology is 'on trial,' although the public often gives the impression that it thinks so. The manner in which the human race uses them, however, is on trial," he asserted. "Whether the exploitation of science by mankind becomes a promise or a threat, a blessing or a curse, is a question to which physical science and technology have no answer."

HONOR JOHN LUCIAN SAVAGE

At Annual Washington Award Dinner to Be Held April 20 In Furniture Club of America

John Lucian Savage, internationally famous civil engineer, has been designated 1949 winner of the Washington Award, which will be presented at a dinner in his honor, April 20, at the Furniture Club of America.

The award is given annually by a joint committee of the American Society of Civil Engineers, American Society of Mechanical Engineers, American Institute of Electrical Engineers, American Society of Mining and Metallurgical Engineers, and the Western Society of Engineers.

Mr. Savage, recipient of the award "for his unselfish public service devoted to the creation of monumental hydraulic structures utilizing natural resources," will discuss at the dinner the Yangtze river dam project in China, which he designed.

In the fall of 1945, the U.S. Bureau of Reclamation entered into a $500,000 contract with the Chinese government providing that the Reclamation Bureau engineers in Denver would draft the final plans for this tremendous dam with Chinese engineers collaborating.

The power distribution area of the projected Yangtze river dam is peopled by 140 million persons, a population nearly equivalent to that of the entire United States. Modern irrigation canals would flow through millions of acres of farm land and the disastrous Yangtze river floods, it is said, would no longer be a threat. Completion of this project would undoubtedly be one of the most important physical factors in the strength of the modern Chinese nation.

According to Savage, preliminary work at the site of the Yangtze gorge project was temporarily suspended in August, 1947, due to internal strife in China. While work has been at a standstill since the plans were drawn, it was estimated that the dam would take 6 or 7 years to build. Twenty diversion tunnels would be needed, compared with the four used in Boulder dam, to divert the Yangtze. It is estimated that the fluid capacity would be equal to 50 million acres and that the storage of flood water would irrigate 10 million acres of land.

Savage has received degrees from the University of Wisconsin, the University of Denver and the University of Colorado. He is consulting engineer for the Tennessee Valley Authority and the U.S. Bureau of Reclamation. He has received numerous awards in recognition of his contributions to the field of civil engineering, particularly in the construction of hydraulic structures.

No other individual has had the direct responsibility for more dams than Savage. Among the more prominent are the Hoover (Boulder) dam and power plant, Shasta dam, All-American canal system in California, Continental Divide tunnel in Colorado, Norris and Wheeler dams in Tennessee under contract between the Bureau of Reclamation and the Tennessee Valley Authority, and the Underground Fuel Storage project at Pearl Harbor for Contractors, Pacific Naval Air Base.

His projects have included work in Afghanistan, Australia, Canada, China, India, Mexico, Palestine, Spain, Switzerland and England.

The program for April 20 will begin with a reception at 5:30 p.m., and dinner will be served at 7 p.m. Reservations, at $4.85 per person, should be sent to the Western Society of Engineers, 84 E. Randolph.

To the Secretary,
Western Society of Engineers, 84 E. Randolph Street, Chicago 6.

ENCLOSED IS REMITTANCE FOR $.....FOR.....TICKETS.
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ARCHITECTS' ACT

Amendments Before Illinois General Assembly Interpreted for Western Society Architects, Engineers by Illinois Engineering Council

At the request of the Board of Direction, the Illinois Engineering Council has made the following report to the Western Society of Engineers. Members are urged to express their opinions concerning the legislation.

Two bills have been introduced in the Illinois 66th General Assembly concerning the practice of architecture, both of which affect not only the public interest, but the activities of professional engineers. These bills are known as House Bill No. 150 and Senate Bill No. 47, both of which are amendments to the Illinois Architectural Act. The major proposed revisions which concern us as citizens of the State and as professional engineers are changes in Section 3 and Section 10 of the present Illinois Architectural Act.

Under House Bill No. 150, Section 3 is amended to a blunt statement that no corporation shall be licensed to practice architecture, but an addition is made that it is unlawful for a person who is not a licensed architect to offer for sale the designs, plans, specifications, or services of a licensed architect. Under Senate Bill No. 47, Section 3 is amended to permit practice of architecture by a corporation if each of the officers and directors is a registered architect or engineer. In the opinion of legal counsel, the entire Section 3 is unconstitutional because the Architects' Act relates to the activities of individuals and the licensing is confined to individuals who take the examination.

An interpretation of Section 3 as amended in either of the two bills is that an architect would be prohibited from practicing his profession so long as he remained an employe of a general manufacturing, industrial or building corporation regardless of his competency to perform the acts. A corporation having building work to perform would be compelled to hire a consulting architect rather than to permit an architect to remain on its regular payroll for more stable employment. Corporations could not sell plans for standardized buildings in order to save the purchaser a substantial part of the cost. The restrictive practices would appear to set up a monopoly for the consulting architect, but are of doubtful validity in a law coming under the powers of the state to protect life, health, and property.

Therefore, there should be no reference to corporations in the Act because the registration of the individual and the activities of the individual after he is registered should be independent of whether he is an officer or employe of a corporation or acting as an independent advisor. The amendment proposed in S.B. 47 confuses the issue by permitting the practice of architecture by corporations if its officers are engineers. Legally, engineers and architects do not have the same qualifications and should, therefore, not be given the same treatment under this Section.

House Bill 150 would amend Section 10 to exempt architects from the provisions of the Porfessional Engineering Act, and this change would, in effect, permit an architect to practice professional engineering without having qualified under the Professional Engineering Act. Such a change is not only unconstitutional, but is a direct invasion by architects into the field of professional engineering while avoiding the necessity to establish competence in that field.

ENGINEERING COUNCIL RECOMMENDS

The Executive Committee of the Illinois Engineering Council recommends to professional engineers the following:

1. As citizens of the State, we should be in favor of amending the Illinois Architectural Act to strike out Section 3 entirely in order to eliminate confusion and eliminate what legal opinion indicates is an unconstitutional clause.
2. Also, both as citizens and professional engineers, we should be opposed to the amendment in Section 10 which could permit practice of engineering without qualification.
3. The individual engineers who concur in this viewpoint are urged to write, wire or telephone their senators and representatives, and members of the Committees on License and Miscellany holding hearings on these bills.

The members of the House Committee on License and Miscellany, with the number of their district, are:

M. T. Flowerree, Chairman, 30; E. P. O'Grady, Vice-Chairman, 29; James Rinella, 1; J. J. Adduci, 2; M. A. Ruddy, 4; C. M. Skyles, 5; S. C. Armstrong, 6.

Harvey Pearson, 8; M. E. Green, 10; Frank Krasniewski, 15; John D'Arco, 17; P. C. Granata, 17; J. D. Carrigan, 18; J. O. Hruby, 19; F. A. Marek, 19; S. D. Kamp, 20; Robert Petrone, 21.

C. O. Miller, 25; E. T. Kane, 26; J. C. Kuklinski, 27; A. C. Prusinski, 27; J. L. DeLaCour, 29; Alan Best, 31.

P. L. Shannon, 31; W. H. Waltrip, 34; J. P. Stemlau, 39; S. C. Lorton, 40; W. J. McDonald, 44; Lloyd Harris, 47; J. P. Alexander, 48.

The members of the Senate Committee on License and Miscellany, with the district number, are:

E. P. Saltiel, Chairman, 31; W. E. Wayland, Vice-Chairman, 22; Frank Ryan, 2; J. C. Kluczynski, 4; A. E. Larson, 11; M. J. Little, 14; E. J. Zeman, 15; R. J. Barr, 41.

The Executive committee recommends to the member societies that this report be published for the information of the individual engineer members.

EXECUTIVE COMMITTEE
ILLINOIS ENGINEERING COUNCIL

EDITOR'S NOTE: *The Board of Direction of Western Society endorsed the foregoing report and recommendations at a meeting March 24.*

Tours of Illinois Tech

Illinois Institute of Technology has started a series of Saturday morning tours of its new modern campus, including its classroom buildings and laboratories, on the south side Technology Center campus.

Groups or individuals are invited to tour the campus any Saturday morning. Tours start at 10 a.m. from the Admissions Office, Room 201, North Union building, 33rd and Federal streets. No reservations are necessary.

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The Western Society of Engineers has provided for you a very attractive dining room and lounge at 84 E. Randolph Street, convenient to most of Chicago's loop. The dining room is open from 11 a.m. to 8 p.m., and the lounge is available from 12 noon to 10 p.m., both five days a week.

Please accept our invitation to use these facilities as freely as you wish. Bring your guests at any time and invite the members of your family to use these club facilities as a rendezvous when in the loop. At noon or before the show, you will find the atmosphere restful and the service prompt and courteous.

Typical luncheon and dinner menus are shown below. These are changed daily and, in addition, special parties may be arranged through our catering service. Free time is available from 2 p.m. to 5:30 p.m. daily for tea, luncheon-bridge, or other occasions.

LUNCHEON

Relish Dish
Corn Salad, Cottage Cheese, Pickles

Choice of Soup
Chicken Noodle, Onion au Gratin

Fillet of Sole—Tartar Sauce	$ .95
Deep Sea Scallops	1.00
Roast Sirloin of Beef au Jus	1.50
Yankee Pot Roast—Buttered Noodles	1.35
Hungarian Goulash	.95
Pan Fried Pork Chops	1.45
Sirloin Steak—U. S. Choice	1.75

Choice of
Creamed New or Whipped Potatoes
Fresh Frozen Green Beans—Kernel Corn

DAILY SPECIAL

Ham Salad Stuffed Tomato—Finger Sandwiches	.90
Engineer's Special Plate—Soup—Dessert	1.00

Coffee—Tea—Milk—Buttermilk

DINNER

Appetizer

Tomato Juice — Grapefruit Juice
Fruit Cocktail — Chopped Chicken Livers
Marinated Herring

Cocktails

Shrimp Supreme .80—Small .45

Soup

Chicken Okra—Onion au Gratin

Fillet of Sole—Tartar Sauce	$1.75
Deep Sea Scallops	1.85
Roast Sirloin of Beef au Jus—Mushroom Gravy	2.00
Yankee Pot Roast—Buttered Noodles	1.75
Barbecued Beef	1.55
Baked Sugar-Cured Ham—Pineapple Glace	1.95
ENGINEER'S SPECIAL PLATE	1.50
One-half Fried Spring Chicken	1.65
Roast Loin of Pork—Applesauce	1.75
Prime Rib Roast of Beef	2.50
Broiled U. S. Choice Sirloin Steak	2.75
Broiled Filet Mignon—Fresh Mushrooms	3.00

New Buttered Parsley or Whipped Potatoes
Buttered Beets—Early June Peas
Head Lettuce and Tomato Salad
1,000 Island or French Dressing
Coffee—Tea—Milk—Buttermilk

French Apple, Cherry or Pineapple-Cheese Pie
Vanilla or Butter Pecan Ice Cream
Chocolate or Pineapple Sundae

WSE Section Directors To Be Elected

Fire Protection and Safety

The Nominating Committee of the Fire Protection and Safety Engineering Section has nominated the following two Corporate Members as the regular ticket for Directors of the Section, for a term of three years beginning June 1, 1949.

Robert C. Peterson, Associate Professor, Illinois Institute of Technology.

Richard C. Schipper, Technical Representative, Insurance Company of North America.

Other corporate members may be nominated by petition signed by ten corporate members of the Society, provided acceptance of these nominees has been secured in writing.

The Directors will be elected at a meeting of the Section to be held *May 2, 1949.*

Hydraulic, Sanitary and Municipal

The Nominating Committee of the Hydraulic, Sanitary and Municipal Engineering Section has nominated the following two Corporate Members as the regular ticket for Directors of the Section, for a term of three years beginning June 1, 1949.

Harry J. Bartz, Senior Civil Engineer, Sanitary District of Chicago.

Peter M. Page, Traffic Const. & Maint. Supervisor, Chicago Park District.

Other corporate members may be nominated by petition signed by ten corporate members of the Society, provided acceptance of these nominees has been secured in writing.

The Directors will be elected at a meeting of the Section to be held *April 11, 1949.*

Conference on Surveying

Plans are now being completed for the Seventh Annual Illinois Conference on Surveying and Mapping which will be held at the University of Illinois, Urbana, Illinois, on May 20-21, under the sponsorship of the Departments of Civil Engineering of the University of Illinois and of the Illinois Institute of Technology, and the Division of Engineering Sciences, Navy Pier Branch, University of Illinois.

Indoor Polo Games

Arrangements have been made whereby members of the Western Society of Engineers and their guests may obtain $2.50 box seat tickets for 75 cents per person for the METROPOLITAN INDOOR POLO LEAGUE games played every Saturday evening at the 33rd CHICAGO AVENUE ARMORY, 234 E. Chicago Avenue.

Game time is 8 p.m. Inquire in the office of WSE if you are interested.

Communications Engineering

The Nominating Committee of the Communications Engineering Section has nominated the following two Corporate Members as the regular ticket for Directors of the Section, for a term of three years beginning June 1, 1949.

A. J. Dore, Chief, Land Lines Installation, Civil Aeronautics Administration, Orchard Airport.

John E. Ostline, Systems Development Engineer, Automatic Electric Co.

Other corporate members may be nominated by petition signed by ten corporate members of the Society, provided acceptance of these nominees has been secured in writing.

The Directors will be elected at a meeting to be held *April* 11.

Electrical Engineering

The Nominating Committee of the Electrical Engineering Section has nominated the following two Corporate Members as the regular ticket for Directors of the Section, for a term of three years beginning June 1, 1949.

V. S. Acton, Manager, Steel Mill Section, Westinghouse Electric Corp.

Wm. B. Ferguson, Electrical Engineer, Freyn Engineering Co.

Other corporate members may be nominated by petition signed by ten corporate members of the Society, provided acceptance of these nominees has been secured in writing.

The Directors will be elected at a meeting to be held *April* 18.

Necrology

Albert W. Bee, Jr.

Word has been received from California of the death on February 13, of Albert W. Bee, Jr., retired non-resident member of Western Society.

Mr. Bee had been a member since October 26, 1928, and had worked as a supervising engineer and construction manager for several Chicago firms before his retirement in 1937. He was graduated from Massachusetts Institute of Technology in 1904 as a Civil Engineer.

Fred A. Rogers

Fred A. Rogers. dean emeritus of the Illinois Institute of Technology, and for more than half a century a teacher of electrical engineering, died March 18.

He was a Life Member of Western Society, having been a member from 1904 to 1911, and from 1923 until the time of his death. For the past two years he had been chairman of the Library committee.

Mr. Rogers joined the old Lewis Institute in 1896, and in more than 40 years there served as dean of engineering, co-director and professor of electrical engineering. After the institute's merger with the Illinois Institute, he served as director of its war training program, and retired at the end of the war as dean emeritus.

Engineering Societies Personnel Service

84 East Randolph St., Chicago 1, Ill., ST ate 2—2748

These items are from information furnished by the Engineering Societies Personnel Service, Inc., Chicago. This SERVICE, operated on a co-operative, non-profit basis, is sponsored by the Western Society of Engineers and the national societies of Civil, Electrical, Mechanical and Mining and Metallurgical Engineers. Apply to ESPS, Chicago and the key number indicated, including postage to cover forwarding and return of application. If placed in a position as a result of a Men Available or Position Available advertisement, applicants agree to pay the established placement fee. These rates are available on request and are sufficient to maintain an effective non-profit personnel service. Prepared MEN AVAILABLE advertisements limited to 35 words, with typed resume attached may be submitted to ESPS Chicago by members of Western Society of Engineers at no charge. A weekly bulletin of positions open is available to subscribers. Apply ESPS Chicago.

MEN AVAILABLE

Estimator-plant layout and process engineer, mechanical, 35, exp. in bldg. material plant layouts; 6 .yrs. process engineer—4 with aircraft co. and 2 with mfgr. heavy machy. Chicago. 62-W

Liaison engineer, 41, past 10 years charge of planning study on heavy artillery, railway & constr. equip., liaison between Government and manufacturer. Previous exp. as plant engineer on heavy metal stampings. Midwest or west. 63-W

Chemical engineer, 41, 10 yrs. exp. in industries as chem. eng. and director of research on food products, gas masks and petroleum; 5 yrs. teaching experience in chemical engineering. Chicago. 64-W

Tool designer, 42, 10 yrs. exp. tool and die design for companies engaged in tool and gage work on radio, tractor and motor mfg. Midwest. 78-W

Recent graduate, mechanical, 24, interested in position as production eng., plant or methods engineering for company in metal working industry. East or midwest location. 65-W

Checker-draftsman, mechanical, past 5 yrs. layout and detail for mfgr. of foundry equip., previous 10 yrs. as inspector shop layout and inspection work far mfgr. of agri. equip. Chicago location. 66-W

Plant engineer, mechanical, 39, past 5 yrs. exp. plant engineering, maint. and constr. for food manufacturer, previous exp.—4 yrs. U. S. Army and 9 yrs. design, estimating and plant maint. Midwest or west location. 67-W

Metallurgist, M.S., 29, 3 yrs. flotation research test work on nonmetallic ore samples to produce salable nonmetallic mineral concentrates; 1 yr. Research Fellow working toward M.S. Interested in research, development or teaching work. West, midwest or east location. 68-W

Sales engineer, graduate mechanical, 26, 3 yrs. selling coal, oil and heating equip. to industrials. Main interest sales engineering. Chicago. 69-W

Designer-development, electrical, 28, exp. on sales and design of antennas. Interested in design and research with mfgr. elect. equip. on communications. Any location. 70-W

Mechanical engineer, 21, recent grad. Purdue, interested in industrial or sales eng. Chicago. 71-W

Chief engineer, mechanical, 34, experienced in automotive assembly plant, design of special tools, gages, fixtures, etc., also plant maint. and operation. Interested in work as chief engineer or maint. eng. with company engaged in metal wkg. industry. Any location. 72-W

Factory manager, supt. or sales manager, 35, past 10 yrs. worked from position of draftsman to that of manager of production engineering, sales and advertising for company on air condi. equip. Midwest or west location. 73-W

Electrical engineer, 26, Wisconsin U., 1 yr. experience as sales engineer, interested in lighting or estimating with electrical contractor. 74-W

Structural engineer, graduate, 40, licensed, 18 yrs. experience steel and concrete design for railroads and industrial buildings. Chicago. 75-W

Designer, mechanical, 25, out 1 yr. Purdue, experienced on machine design for consulting engineer. Chicago location. 76-W

Designer-estimator, 37, considerable experience on heating, ventilating, plumbing, air conditioning. Chicago. 77-W

Construction manager and estimator, graduate civil engineer licensed several states, 25 years' experience handling building contracts of all types and similar structures, excellent estimator, purchasing, design, coordinator. Midwest or East. 80-W

Civil engineer: Associate Member ASCE, 32, single, graduate. Experienced in operation and design of water and sewage systems and treatment plants and reinforced concrete design. Employed but job to finish soon. Present salary $6500. Prefer West but consider any U. S. location. 81-W

POSITIONS AVAILABLE

Design, detail, drafting: electrical, civil, mechanical. $3000-8000.

Estimators, electrical, civil, mechanical, $3900-5720.

Specification writers, $4700-6500.

Construction superintendents and engineer, $3200-7200.

Office highway engineer, $4000 up.

Industrial and time study, $3000-7000.

Research and development, $3600-12000.

Sales engineer, $3200-7200.

Metallurgist, $3000-7200.

Professors, asst's. instructors, $3000-6000.

R-5562 Factory Mgr., mech. 40-45, exp. mach. shop operation & administration, primarily automatic mach. finishing, precision grinding, heat treating in job shop. Ability leadership, labor negotiations, etc. Responsible for production control, scheduling, maint. and cost. Established progression to presidency of old established concern. One year indoctrination on special assignments in several company plants. Salary, $16000 plus top executive profit sharing. Location, Chicago.

R-5558—Draftsman-designer, mech. 4 yrs. exp. small parts on mfgr. of office mach. Salary $325. Chicago.

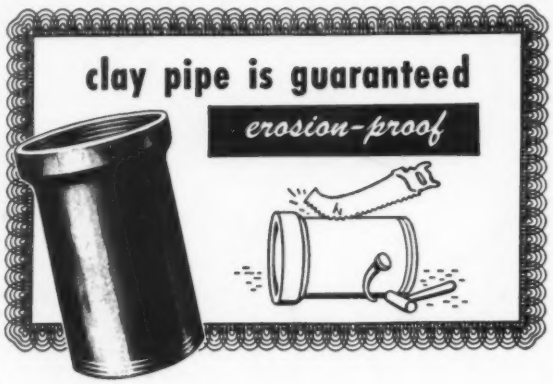
R-5557 Specification writer, mech., 30-40, 5 yrs. exp. automotive and lubrication eng. Will review bids for acceptance suppliers specifications & bids, compare standards, test conformity report results for transportation company. Salary up to $500. Chicago.

R-5557 Professor, electrical, field of electronics, communications, servo-mechanisms and control. Ph.D. or equivalent in research, qualified to supervise research leading to M.S. and Ph.D. $6000 for 9 months. Chicago.

R-5552 Draftsman-detailer, mech. or struct. 8-10 yrs. exp. neat draftsman, conveyor exp. desired, $1.50 to $1.90 hr. Chicago.

R-5550 Chemical engineer, exp. in rendering and refining animal fats, hydrogenation, strong inclination to be quality, production and cost minded. Salary minimum $5000. Location, Ind.

R-5601 Draftsmen, designers and structural engineers, experienced in conveying and materials handling of bulk sand, gravel, crushed stone, ores and coal. Knowledge of concrete footings and bases. Able to deal with housing enclosures for above. Must be top grade. Salary—going rate. Location: Chicago.



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